V E G A

www.vegachess.com

Chess Pairing Software
FIDE approved: Torino 2006, Istanbul 2012

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FIDE Arbiter

User´s Manual
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1. Overview and Main Recommendations

Vega consists of two programs for the administration of a chess tournaments; Vega for individual tournaments and VegaTeam for team tournaments. Vega has been designed in a way that reflects, as closely as possible, the tasks of the arbiter or Tournament Director (TD) during a tournament: These include:

1. Registration of players.
2. Pairing the next round.
3. Entering results for the current round.
4. Compiling the cross-table and other lists for display to the players.

During these steps some additional tasks are allowed such as managing withdrawals, printing positions, data correction, etc… Vega monitors the user's activities and only offers permitted functions at the proper time.

Vega includes the following functions:

- Registration of up to 999 players and the evaluation of 20 rounds for the Swiss system or registration of up to 99 teams of 10 players each and the evaluation of 14 rounds. These limits can be changed.
- Registration of up to 24 players/teams for the round-robin system single and double.
- Automatic pairing according to the Swiss system: FIDE Dubov (*certified by FIDE*), FIDE Dutch (via JaVaFo engine © Roberto Ricca *certified by FIDE*), FIDE Lim, USCF, Swiss based on Buchholz (Vega), Amalfi.
- Manual pairing.
- Manual improvements to pairings.
- Management of odd numbers of players.
- Evaluation of results (1-0, 1/2, 0-1, 0-0, forfeited, adjourned games, etc...).
- Administration of the cross-table.
- Facility to change data (results, names, ratings etc.).
- The import of players from any formatted database.
- The export of players or an entire tournament.
- Management of withdrawals and re-entries.
- Entry of players arriving late during the tournament.
- Output of pairing lists, reports, cross-tables, lists of players standing, etc…
- Generates web content of the tournament results.
- Prize distribution according to the Hort system.
- Accelerated rounds up to three groups.
- Platform support for both Windows and Linux in native 32 bit mode.

Although Vega has been designed to be very intuitive and easy to use, it is recommended that the user reads this manual and tries to simulate a few tournaments in order to learn all of its functions. The user must have some knowledge of the rules of the Swiss system and its implementation in Vega in order to properly manage pairing. There are occasions when manual pairing is required. The Vega web site contains a screencast demonstrating specific tasks.

1.1 Document Conventions

Graphical labels referred to in the text are marked using **bold text**.
Transition during menu navigation is marked using an arrow: **File → Exit**

Parameters to be substituted by the user are marked with <angled-brackets>.

1.2 System Requirements

Vega runs on Linux and Windows operating systems from Windows XP onwards fitted with a hard disk and a graphic card capable of supporting a resolution of 800x600.

A printer is recommended for the display of pairings and results during tournaments, although in principle Vega could be used without it. Vega will print only ASCII files. HTML output can be printed from the browser, but there is little control over page breaks.
Vega may run even on a USB pen drive.

1.3 Installation

Windows version: Vega comes in the self-extracting archive `VegaSetup.exe`. To install the program just double click on the icon program and follow the instructions. Please do not install the program in the folders "Desktop" or "Documents", instead use the usual directories of c:\programs\vega, c:\vega, etc... without spaces in the name of the installation folder. After installation, the program can be run from the start menu in the usual way. Please note that:

`Vega.exe`	refers to the version for individual tournament
`VegaTeam.exe`	refers to the version for team tournament

Linux version: VEGA comes in the compressed archive vegalinux.tar.gz. To install the program, the user should create an installation directory and then extract the contents of the archive using "`tar xvf vegalinux.tar.gz`". VEGA will be installed in the directory ./vega. To run the program the user must change directory and enter the following command:

`./Vega`	for individual tournament
`./VegaTeam`	for team tournament

Customising the Menus
By default, Vega shows the menu in English. The user can select a different language using **Select Language** under the **Extras** menu. The program will need to be re-started for the changes to take effect. If necessary, the user can customise Vega's text labels by editing the message catalog as described in Appendix A (Frequently Asked Questions).

Uninstalling Vega
Vega for Windows does not use any DLLs, so to uninstall the program, just run the uninstaller from the start menu. On Linux, simply erase the installation directory.

Reporting Bugs
The author will appreciate all comments, questions and bug reports (if any). To report a bug, send details to the contact address below. Attaching the zipped tournament folder will assist analysis.

E-mail: vega@vegachess.com

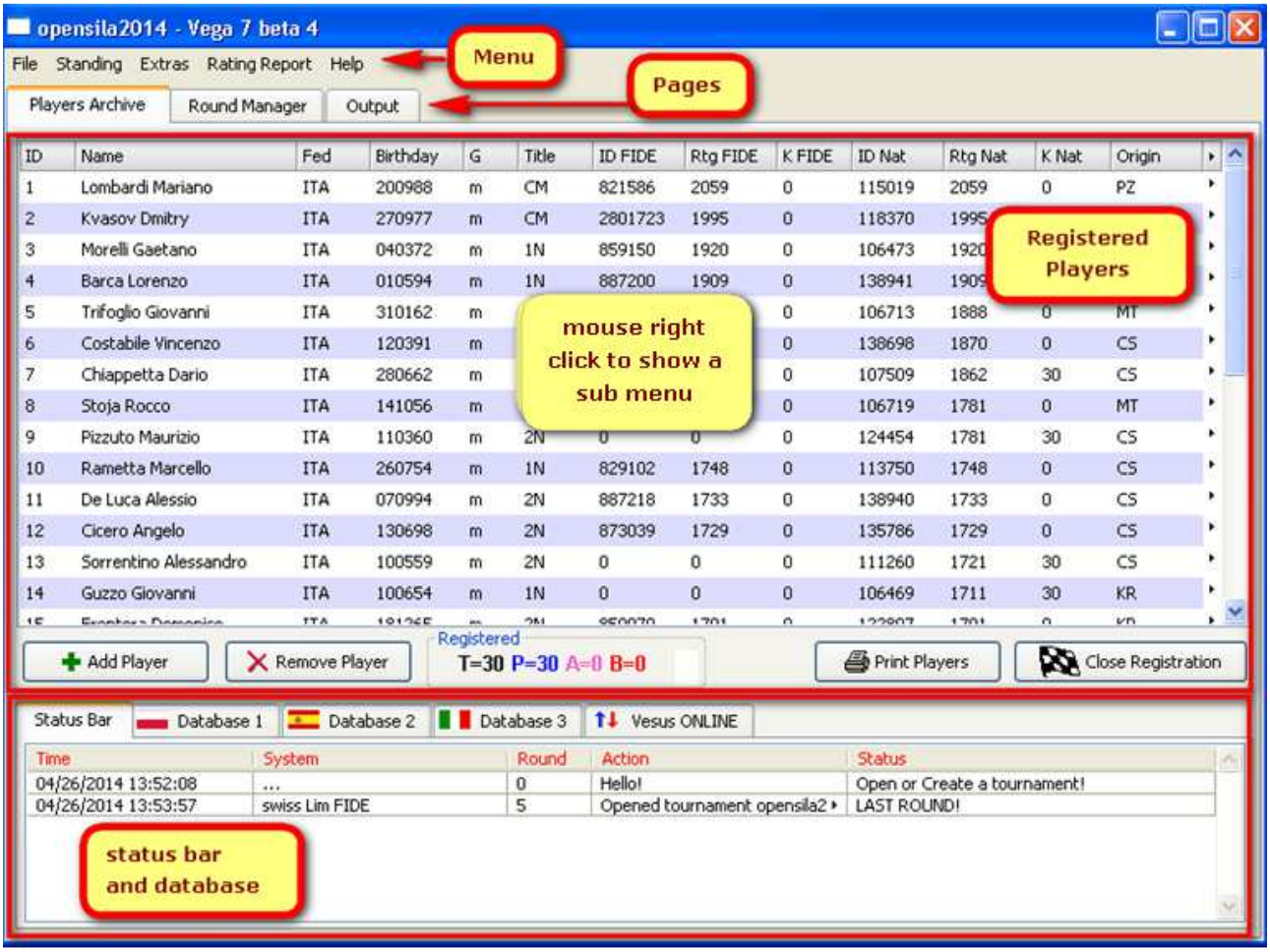
License
The user will find the program license in the installation directory (see Appendix B). The user must be aware that by using the program, he accepts all the terms of the license.

2. Vega for Individual Tournaments

In this tutorial the user will learn how to start a tournament, produce pairings, insert results and show the cross-table in the standard way (Sections 2.1 to 2.6). Section 2.7 describes some tasks such as modifying the tournament details that are sometimes necessary, but which require extra caution. Sections 2.8 – 2.10 describe the **Standing, Extras and Rating Report** menu items. Miscellaneous other tasks are covered in section 2.11.

The working area of Vega consists of a **menu bar**, 3 tabbed pages (**Players Archive, Round Manager, Output**), and a **status bar and database area**.

When the program starts, the page titled **Players Archive** is shown:



The **File** menu gives access to a series of operations including the opening and closing of files, the creation or modification of a tournament and exiting from the program. The three tabbed pages refer to three functions that the arbiter can perform during a tournament.

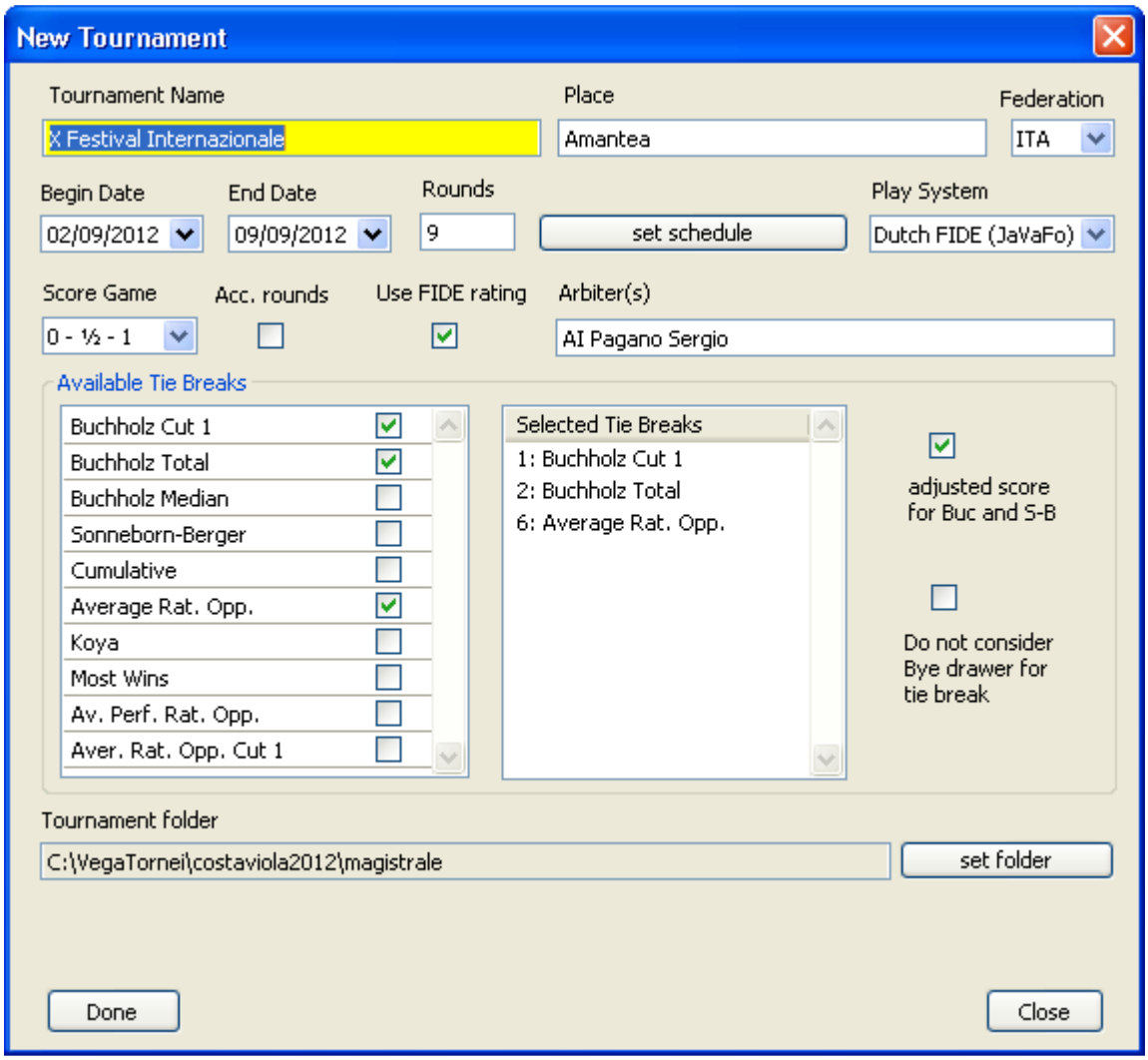
1. **Players Archive**: here it is possible to register players, close the registration and start the tournament, modify player details even after the tournament has started, manage withdrawals and late entries and print the list of players.
2. **Round Manager**: here it is possible to generate and modify pairings for the next round, insert the results of the current round or revisit and correct previous rounds.

3. **Output**: here it is possible to visualise and print all the outputs from the program

To quit the working session, the user should select **Exit** from the **File** menu. To resume an old session, select **Open Tournament** from the **File** menu and look for files with a *.veg extension in the working directory.

2.1 Creating a New Tournament

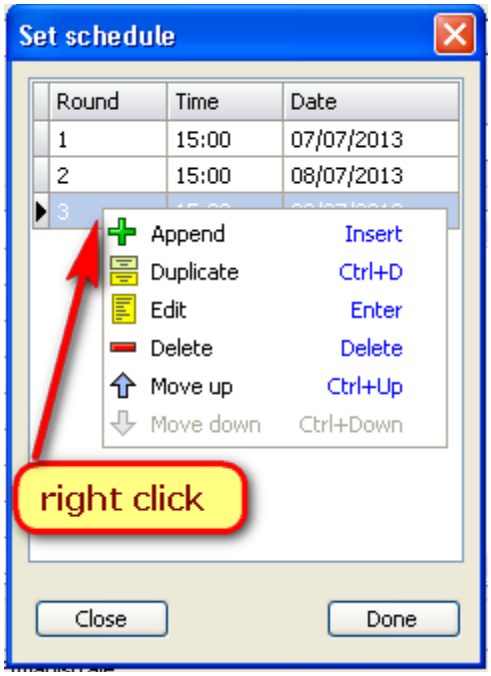
To create a new tournament, select **New Tournament** from the **File** menu. A new form will prompt the user to enter essential information required for the tournament (see illustration below). The field **Federation** must contain the FIDE country code (3 characters). This information is important as it determines the national rating system and in the case of FIDE ratings, it affects the international norms.



The **Play System** drop-down menu enables selection from one of eleven different pairing systems that include: single or double-round Round-Robin (see Appendix C), FIDE Swiss Dubov (see Appendices D and E), FIDE Swiss Lim, FIDE Swiss Dutch, Swiss Vega (see Appendix F) and Swiss USCF (see Appendix G), Swiss Ranked Dutch (as FIDE Dutch but the players are ordered not by score and rating but by score and then tiebreak criteria). For a brief guide on which Swiss system to use, see Appendix A: Frequently Asked Questions..

Please note that the **Rounds** variable will have no effect on Round-Robin systems, since they are managed automatically by Vega.

The button **Set schedule** enables the user to enter time and date of each round. This info, if available, will be shown on the FIDE rating report and printed on the pairing sheet and web site as well. To enter the schedule make a mouse right click and choose the desired action.



If the user prefers to run a tournament with accelerated rounds, then he can check the box **Acc. rounds**. Before closing the registration, Vega will prompt for the required parameters.

The **Use FIDE rating** check-box forces Vega to use FIDE ratings during pairing under the Swiss system and for performance rating calculations. Otherwise the national rating will be used.

> ***NOTE:*** *For FIDE tournaments: If the player is FIDE unrated (Rtg FIDE = 0), Vega will use his national rating for ranking and pairing purposes.*
> *For national tournaments: If the player is unrated (Rtg Nat = 0), Vega will use his FIDE rating for ranking and pairing purposes.*
> *(The ECF tournament director should, however, refer to Appendix H: Additional Notes for the ECF Tournament Director.)*
>
> ***NOTE:*** *Pairings for the Swiss system FIDE Dutch (Handbook FIDE C.04.1) is performed thanks to the pairing engine JaVaFo © Roberto Ricca (http://www.rrweb.org/javafo).JaVaFo needs the Java Runtime Environment (JRE) at least version 5 and 32 bit (the 64 bit version will not permit Vega to work correctly). The JRE can be downloaded from http://www.java.com (you need to have the privilege of administrator to install it).*

The user can choose among different tie-breaks.

- *Buccholz Cut 1* is the Bucholz score reduced by the worst opponent score
- *Buccholz Total* is the Bucholz (sum of opponents) score
- *Bucholz Median* is the Bucholz score reduced by the best and worst opponents scores
- *Sonneborn-Berger* is the sum of defeated opponents scores plus half the sum of opponents with whom the player has drawn
- *Cumulative* is the sum of progressive scores
- *Average Rating Opp.* Is the average Elo rating of opponents
- *Koya:* is the sum of points obtained against opponents who have scored at least 50%,

- *Most Wins*
- *Av. Per. Rat. Opp.* is the average performance rating of opponents
- *Av. Rat. Opp. Cut 1* is the average Elo rating of opponents after discounting the worst rated opponent.
- *Direct Encounter*: result of individual game between two tied players
- *Most Paired*: counts only the games for which the player was actually paired, including byes, but ignoring any drawn 'forfeits'.

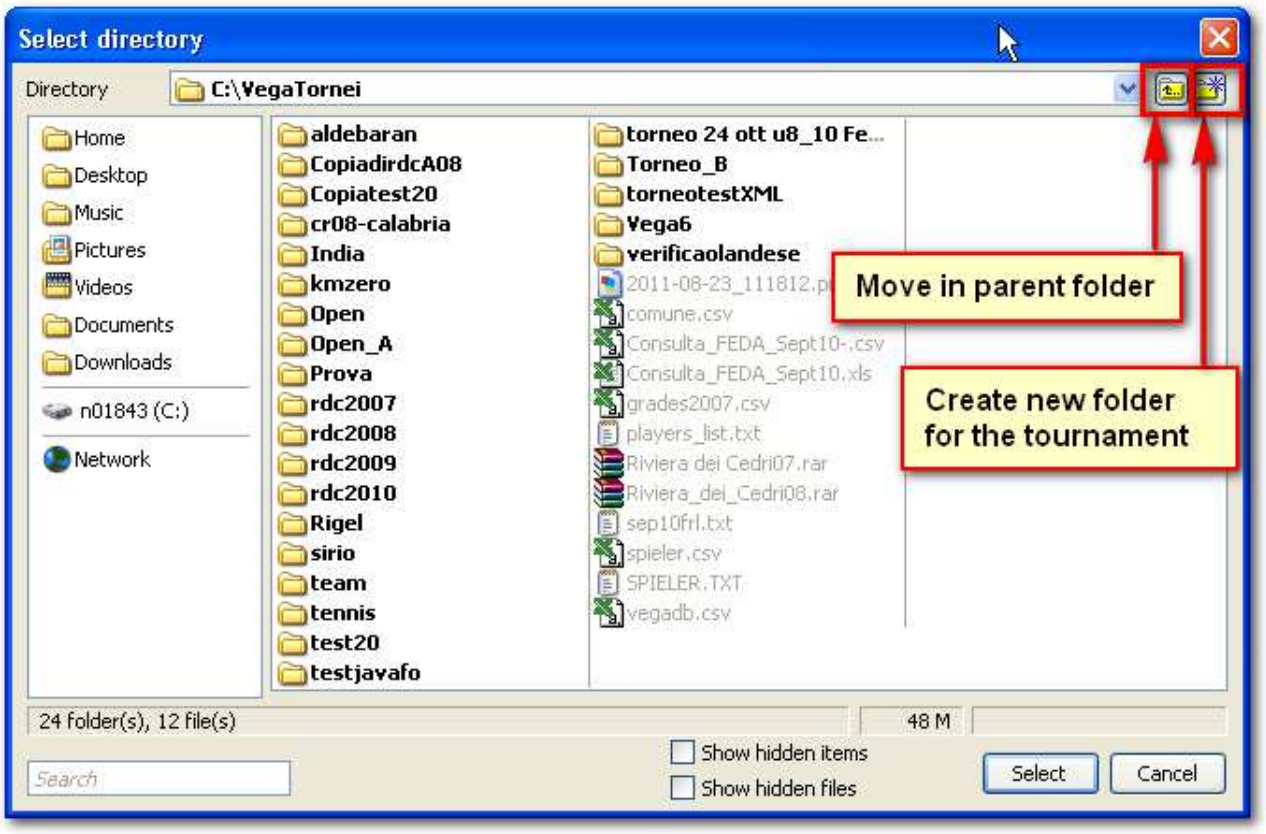
The implementation of the Bucholz and Sonneborn Berger system with respect to unplayed games is described in Appendix I.

Moreover, it is possible to exclude from the tie-break calculation any pre-arranged draw/bye (sometimes referred to as "draw to forfeit") by checking/unchecking the option "**Do not consider Bye Drawer for tie-break**". (This is the default.) Another way to prevent the pre-arranged half-point byes being considered is to use as first tie-break the one called "Most paired". This considers only games in which the players were actually paired (including paired against BYE).

Vega uses a working directory <TournamentFolder> in which it will store all the files generated during the tournament. Each tournament has its own working directory, if a tournament has many sections, then each of them should have its own directory. This directory is set by pressing the **set folder** button (see next picture). **It is recommended to avoid** the use of spaces, accented and unusual characters (such as éçòà°@...#.) when defining its name. The name of the folder is used for some very important files generated during the tournament.

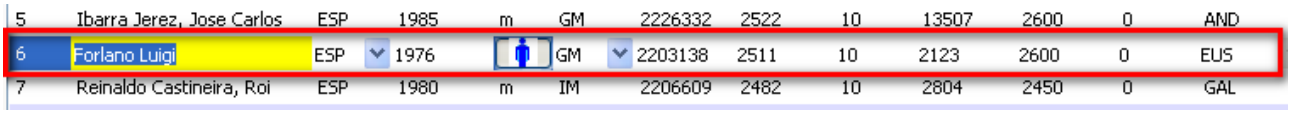
> ***NOTE:*** *The tournament folder should* ***NOT*** *be created in the installation folder, but in some area of the hard disk that any user may access, for example,* ***`c:\mytournaments.`*** *Depending on your computer you may need the rights of administrator to create it and make it writable by all users.*

Once the **New Tournament** form has been filled in, the user must click on **Done**. To correct these settings later on, select **Dangerous Stuff!** → **Modify Tournament** from the **File** menu.



2.2 Registering Players

After creating a new tournament, the user must enter player information in the **Players Archive** page. Players are entered clicking **Add Player** and filling out the fields in the Registered Player area**.** (It is also possible to enter players by importing them singly or in groups from a pre-existing database – see Section 2.11.3.)



5	Ibarra Jerez, Jose Carlos	ESP	1985	m	GM	2226332	2522	10	13507	2600	0	AND
6	Forlano Luigi	ESP	1976		GM	2203138	2511	10	2123	2600	0	EUS
7	Reinaldo Castineira, Roi	ESP	1980	m	IM	2206609	2482	10	2804	2450	0	GAL

To accept the data the user needs to perform a mouse left click outside the inserted record (the red box in the above picture) or press the key ENTER.

While the registration remains unclosed, the selected player can be moved up and down using CTRL + Up and CTRL + Down. To print the player list just click on
Extras → Print registered players.

The information to be supplied during registration is:

Name: Last and first name for a total of 30 characters.
NOTE: *Only the* ***Name*** *field is mandatory for adding a player.*

Fed: Three characters for the Federation of the player. For FIDE tournaments enter the exact FIDE code, otherwise Vega will not calculate the resulting FIDE norm correctly.

Birth date: 10 characters (actually it is a string and no preventive control is performed. See Section

2.8 for more details). The user must enter the date of birth in a consistent way with the rating report.

Gender: Choose between ‘m’ale and ‘f’emale (default = ‘m’).

Title: Choose one of the listed category. The FIDE titles are: **GM, WGM, IM, WIM, FM, WFM, CM, WCM.** Instead the national categories are**: M (master), CN (candidate master), A=1N, B=2N, C=3N, D, E**. The player without a title/category is denoted by NC or --.

ID FIDE: FIDE code in 8 digit format (default = 0).

Rtg FIDE: Current FIDE rating of the player (default = 0).

K FIDE: Coefficient for FIDE rating calculations. It is permissible to retain the default value (0) for K. However, FIDE values are:
K = 40 for a player new to the rating list until he has completed events with at least 30 games
K = 20 as long as a player's rating remains under 2400.
K = 10 once a player's published rating has reached 2400 and remains at that level subsequently, even if the rating drops below 2400.
K = 40 for all players until their 18th birthday, as long as their rating remains under 2300.
K = 20 for RAPID and BLITZ ratings for all players.
The formula used to calculate the rating variation is given in Section 2.10.

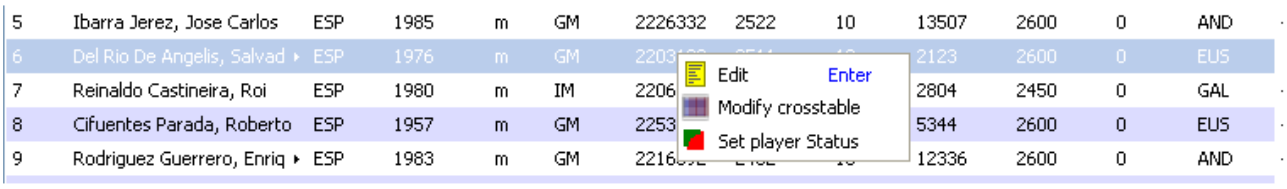
ID Nat: Player national code in 8 digit format (default = 0).

Rtg Nat: Current national rating of the player (default = 0).

K Nat: Coefficient for national rating calculations (default = the last inserted value).
Vega can be modified in order to meet specific requests from other Federations. In this case please contact the author.

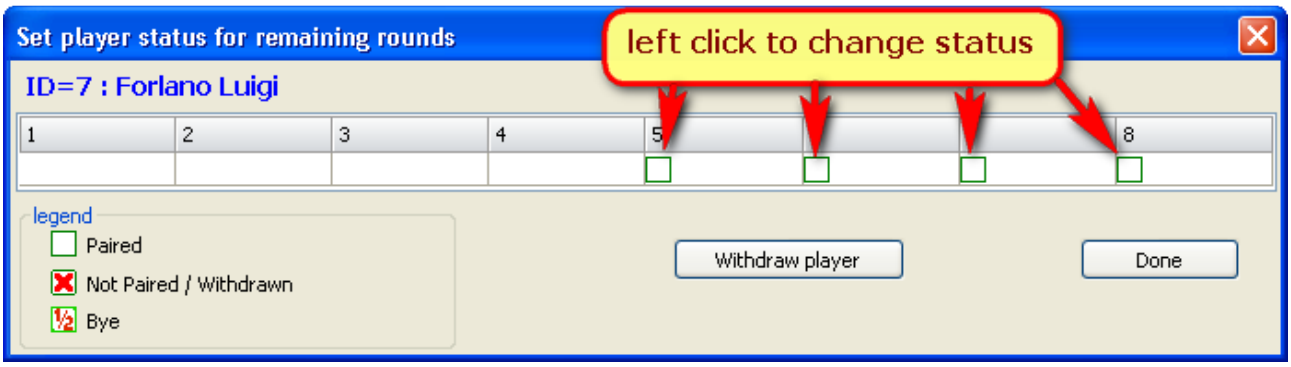
Origin: supplementary field that can contain the player’s region, state, province, club name... In some tournaments this field can be used to get a standing by team (see section 2.7).

Status: A player at a given round can be in one of three possible states: **Paired**, “white” color, the player is available to play this round; **Not Paired/Withdrawn**, “red” color - the player is not available for this round; **Bye**d, “yellow” color - the player has a pre-arranged draw/ BYE.
The status for the remaining rounds can be changed at any time by a right click on the player name


5 Ibarra Jerez, Jose Carlos ESP 1985 m GM 2226332 2522 10 13507 2600 0 AND
6 Del Rio De Angelis, Salvad ESP 1976 m GM 2123 2600 0 EUS
7 Reinaldo Castineira, Roi ESP 1980 m IM 2206 2804 2450 0 GAL
8 Cifuentes Parada, Roberto ESP 1957 m GM 2253 5344 2600 0 EUS
9 Rodriguez Guerrero, Enriq ESP 1983 m GM 12336 2600 0 AND
Edit Enter
Modify crosstable
Set player Status

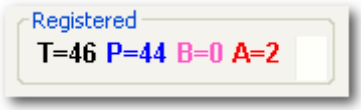
and then selecting **Set player Status**. A new window will open to set status for the

remaining rounds.



To remove the player from the remaining rounds press the button **Withdraw player**. To accept the settings press button **Done**.

It is possible to inquire the history status of all players via the menu item **Extra/Show players status.** Moreover Vega shows a summary towards the bottom of the **Player Archive** page regarding the status of all registered players



T = total number of registered players; **P** = Playing players in the current round (players appearing in the pairing); **B** = players that got a draw/ BYE; **A** = absent players.

To modify a player already added, the user should right click the wanted player and choose **Edit**. To accept the modification it is necessary left click the mouse in any place inside the registered player area.

To delete a player the user should:

1. Select the player in the Player list.
2. Press the button **Remove Player**.

The players and tournament data are saved in the file <`TournamentFolder`>`.veg`. This file is described in Appendix J.

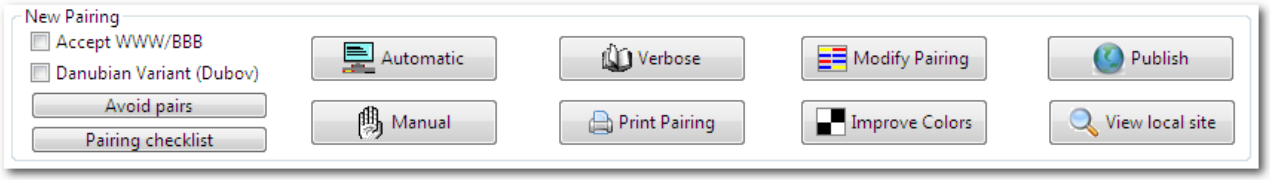
2.3 Closing the Registration

When the user has finished inserting the players, click the **Close Registration** button to start the tournament. Vega will re-order the list of players in order of decreasing rating.

Once the registration is closed, it is not possible to remove players, only modify existing ones. The user can add *late entrants* by pressing the **Add Player** button (see section 2.11.6 for details).

2.4 New Pairing

The pairing is performed in the **Round Manager** page. From left to right the buttons perform the following operations:

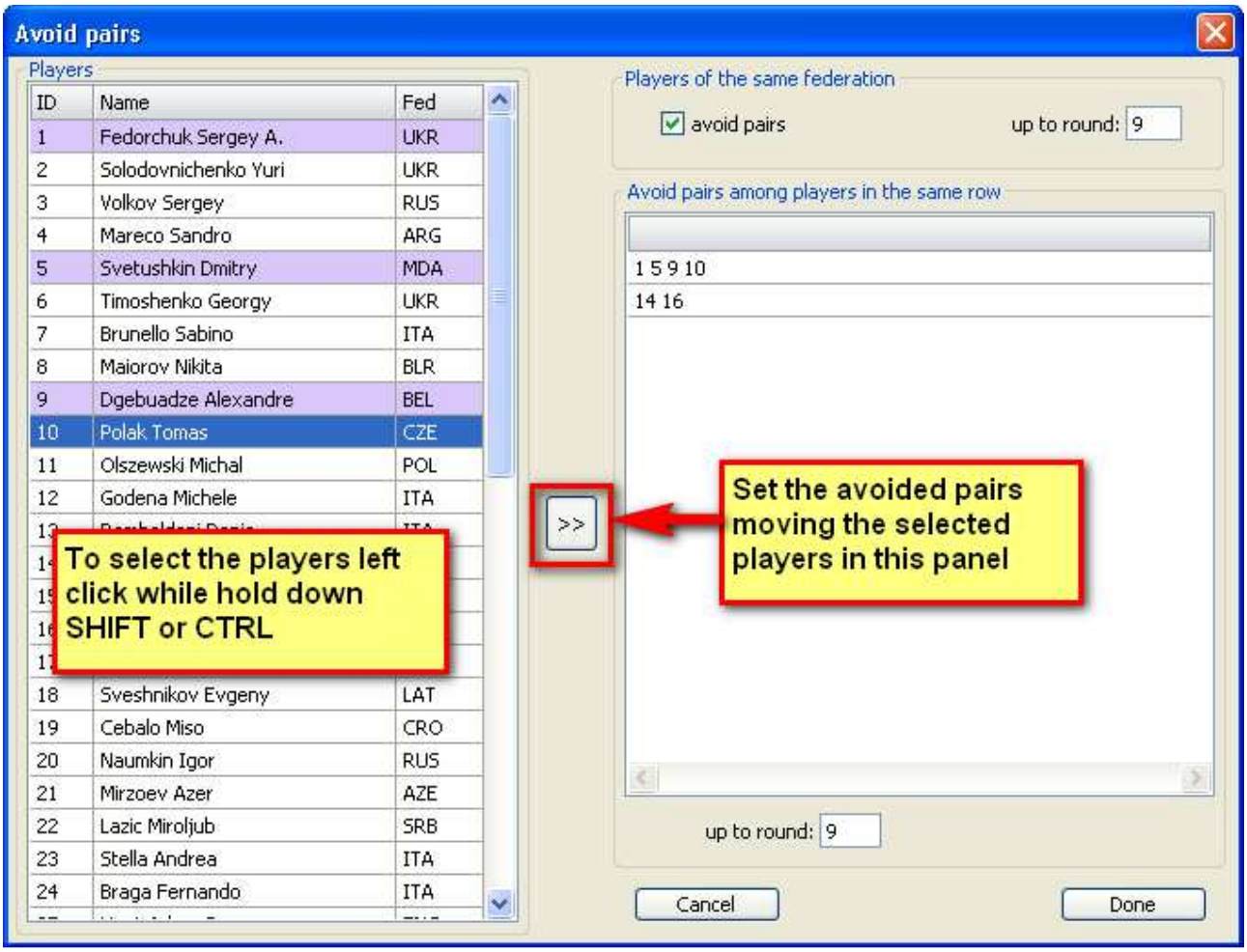


Accept WWW/BBB: When this is checked, Vega allows pairings in which a player can have the same color three times in a row. This option is useful to force pairing between players with a perfect score (players who have won all their games), which might otherwise not be possible due to the color allocation rule. This situation can occur easily when the number of players is less than or equal to 2^R, where R is the programmed number of rounds.

> ***NOTE**: For the Dubov system, this option conflicts with the FIDE rules and cannot be used in a FIDE tournament. For the Lim system, this is automatically taken into account in the last round and cannot be used in FIDE tournaments before the last round. For the Dutch system (JaVaFo engine) this option has no effect.*

Danubian variant: When this is checked, Vega uses a different rule for article 7.2 of the Dubov system (see Appendix K for details).

Avoid Pairs: Pressing this button opens a new window in which the user can indicate which pairs should be avoided in the next pairing. For example, the following picture shows a typical setting that avoids pairs among players of the same federation up to round 9. Also prevented are pairs among players 1, 5, 9, 10 and between players 14 and 16.


Avoid pairs
Players
ID Name Fed
1 Fedorchuk Sergey A. UKR
2 Solodovnichenko Yuri UKR
3 Volkov Sergey RUS
4 Mareco Sandro ARG
5 Svetushkin Dmitry MDA
6 Timoshenko Georgy UKR
7 Brunello Sabino ITA
8 Maiorov Nikita BLR
9 Dgebuadze Alexandre BEL
10 Polak Tomas CZE
11 Olszewski Michal POL
12 Godena Michele ITA
18 Sveshnikov Evgeny LAT
19 Cebalo Miso CRO
20 Naumkin Igor RUS
21 Mirzoev Azer AZE
22 Lazic Miroljub SRB
23 Stella Andrea ITA
24 Braga Fernando ITA
To select the players left click while hold down SHIFT or CTRL
>>
Set the avoided pairs moving the selected players in this panel
Players of the same federation
avoid pairs
up to round: 9
Avoid pairs among players in the same row
1 5 9 10
14 16
up to round: 9
Cancel
Done

.

Pairing checklist: save the file `checklist.txt` that may be used as basis for most of Swiss pairing systems. For each player is shown his color history, opponent history, score group, last float, color preference. It is made by the engine JaVaFo.

Automatic: Instructs Vega to produce pairings according to the selected pairing system. In the case of an odd number of players, depending on the pairing system, Vega automatically assigns a BYE. The fictitious player is assigned with **ID = 0** and a name of **BYE**. The user can exchange the colors of a pair by a double click on the selected pair.

Manual: The user can create their own pairing and Vega will check the legality of each inserted pair. More details about this important function can be found in section 2.9.1.

Verbose: Opens a window showing the contents of the files verboseN.txt and ScoregroupN-0.sgr. By default, for each round N, Vega stores 3 files:

1. verboseN.txt : Contains all the steps made by VEGA to produce the final pairing, except the color allocation task (this file is not available for Dutch Swiss system).
2. ScoregroupN-0.sgr : Contains the players distributed in the score groups before the pairing.
3. ScoregroupN-1.sgr : For Swiss Dubov pairings only, it contains the players distributed in the score groups after some operation to 'equalize' the score group just before the pairing.

By examining these files, the user can check the output of Vega. The program shows the application of rules for the selected pairing system. Using the Dubov system, a typical output for a score group calculation is as follows:

```
-----------------------------------------------
 Group 2: score = 1.5
-----------------------------------------------
                 white |  black
  ID   ARO   Rat  c  u |   ID   ARO   Rat  c  u
  ----------------------------------------------
   9 1890.0 2355  F    |    8 2264.5 2400
  15 2240.0 2130       |   22 2327.5 1850
   3 2272.5 2579     N |
```

This shows the white and black players with their ID, ARO and rating, together with the state of the 'c' and 'u' flag. 'c' indicates the player can change their due color. When c=F the due color is fixed, i.e. the player has an absolute color preference. 'u' indicates the player can upfloat, i.e. can be transferred to a higher score group. When u = N this is not possible. The following is a typical output of the verbose file:

```
================================
 Pairing group 3
================================
[Ch 7.1] ISLANDs: they are: 2
   5, 10
    > moving player 10 from [W 3] to floater group 3
    > moving player 9 from [B 6] to opponent group 3
    > moving player 5 from [B 3] to floater group 3
    > moving player 8 from [W 6] to opponent group 3

Total pairs in the group 3
 ***** 10 -  9
 ***** 5 -   8
```

The score group 3 had two “islands”, i.e. players that have no compatible opponent in their score group. These players have IDs 5 and 10 and Vega proceeds to their pairing as per Chapter 7.1 of the Dubov system. The code [W 3] means “**W**hite subgroup in the score group number **3**” and so on. The “floater group” and its corresponding “opponent group” are special logical groups (internal to Vega) used to transition “islands” and “floaters” that occur during pairing. The detailed information helps the user keep track of the work done by Vega.

Print Pairing: Prints the pairing in the pairing list.

Improve colors: Permits a quick exchange of colors. See Section 2.11.8 for details.

Modify Pairing: Permits modification of the current pairing. See manual pairing for details.

View local site: Launch the predefined browser and load the page index.html of the local web site generated by Vega.

Publish: Uploads the local web site to a specified server (see **www settings** in Section 2.9). The following window prompts the user with new actions:

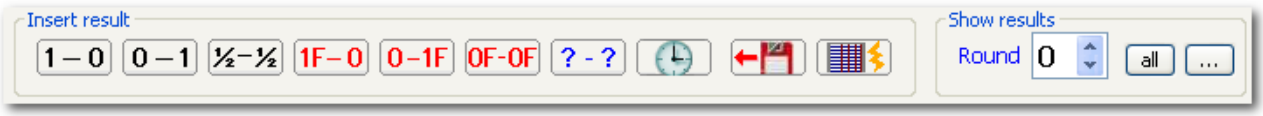
entire site: publish the whole content of the local web site. This option should be used at the very beginning, for example after the first round pairing.

all except flags: this option save times because does not transfer the flags on the server. The player’s flag does not change during the tournament and this action should be used regularly.

only current results: sometimes the arbiter needs to quickly publish only the partial results got at that moment. This option transfers only the file containing the results of the current round.

2.5 Result Entry

The results are entered using the **Insert Result** section in the **Round Manager** page. It is possible to enter results of the current round or modify those of past rounds. The results are entered by choosing a pair in the pairing list and then clicking on the button corresponding to the result:



The ‘F’ denotes a forfeit. Alternatively, the user can enter the result by pressing the following keys:

1 : 1 - 0,
0 : 0 – 1,
5 : ½ - ½,
3 : 1F – 0F,
4 : 0F – 1F,
2 : 0F – 0F,
7 : adj = adjourned (it is equivalent to ½ - ½ for pairing purpose)

9: delete the current result

The consequences of a forfeit in Vega are:

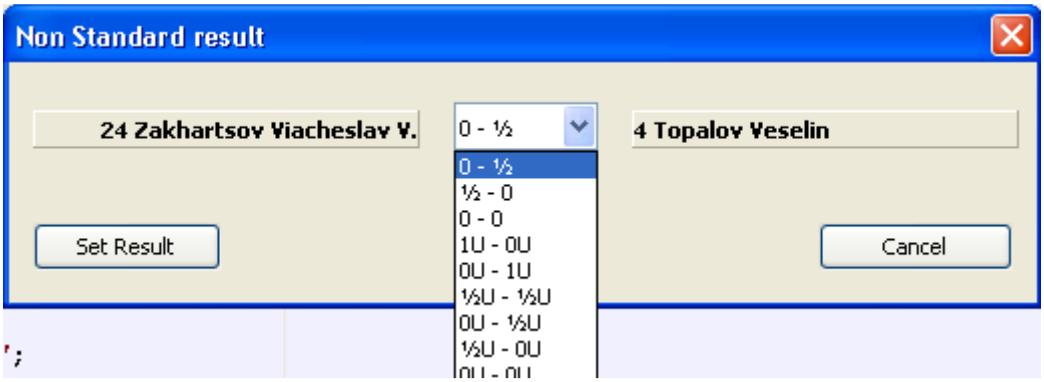
1. For the purpose of rating variations, the game is considered as not played for both players (so that they can be paired again in subsequent rounds).
2. The winner will get +1 point.
3. The color for that round is considered NO_COLOR for both players.
4. For tiebreak purposes the forfeit will be handled as specified at the tournament definition.

The pair with the BYE is assigned an ID = 0 and the name **BYE**. The user will choose the result to assign to the BYE's opponent as usual (the default is "1F-0").

NOTE: *The user can exchange colors of a pair by a double clicking on that pair.*

NOTE: *To restart entry from the first pair, press the ENTER key.*

A non-standard result, for example ½ - 0, 0 – ½ , 0 – 0, can be assigned using the button **non standard** and filling out the following form:



See Appendix A, question 15 for further info about non-standard results.

The 'U' denotes an unrated result, i.e. it is considered as played but not valid for the Elo rating variation or norm calculations.

After choosing a result, Vega will automatically move on to the next pair. The results should all be entered before performing a new pairing or modifying an old one. If the user is not able to finish this operation in one session then he can **Save** the data and **Exit** from Vega. Upon restarting, Vega will remind the user to finish entering the round.

In case of a big tournament the user may want to show only the pairs without results or with an adjourned result. This is done with the button

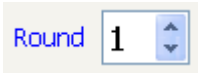
. The button

will show all pairs again. Once entry is complete, Vega will automatically update the Cross Table.

NOTE: *Vega automatically updates the cross table and ranking list when important parameters are changed (player data, tie-breaks...). However if the user want to force the update of the cross table, he must press the button*
.

The data concerning the tournament is stored in the file `<TournamentFolder>.veg`. It is a standard ASCII file and is updated when the user presses **Save Tournament**. Although it can be modified using most editors, the user should not do so for risk of seriously damaging the tournament data. However in some very special cases, the expert user might need to edit them to recover data quickly or to modify the tournament. In this manner the arbiter has a total control over the tournament.

If the user wants to correct results or just show previous pairings, they must first choose the round. To this end, select the round number in the **round** field. All the pairings for that round are displayed and the user can, as usual, select the pair and the result.



Before performing a new pairing Vega produces a backup file named `<TournamentFolder>-VEG-N.bak`. where N is the last completed round. If for some reason the normal file is damaged, the backup can be re-loaded using **Dangerous Stuff! / Load Round** from the **File** menu.

2.6 Cross Table and other useful reports

Moving on to the **Output** page, the user can visualize and print several files. All the data files generated by Vega are in text format, although they have several different extensions. A few generated files have the extension QTF and when printed, result in higher quality output. These files are in Rich Text Format and can be modified within Vega using the UWord editor, by pressing the button. All other files can be opened with the button.

Files relevant to the tournament can be shown by pressing the buttons in the Output page. They are:

Cross Table, .

Sorted Cross Table produces a cross table in which the ID of each player is regenerated according to his rank.

Standing, file standing.qtf displays the first three tie-breaks criteria

Standing,

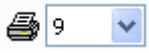
file standing.txt displays all tie-breaks criteria

Board Cards,

: labels to put on the table. The labels starts from number 1, but other number can be set.

Player Cards, : history card of the players.

Pairing, . pairing with results after insertion.

Print, 

: prints the contents of the window. The number in the box indicates the point-size of the text to be printed and not of the text to be showed in the window. The user can print the selected text with the button (does not work with qtf files). A preview is shown before printing commences.

Rating Variation, .

Print registered players,

Here is the list of relevant files generated by Vega and saved in the tournament folder:

Filename	Description
verbosN.txt	Pairing explanation at round N
tourstat.txt, tourstat.html	Tournament statistics
<TournamentFolder>.veg	Tournament file archive
standing.txt, standing.qtf	Standings
scoregroupsNend.txt	Score groups after pairing (only Dubov system)
scoregroupsN.txt	Score group before pairing
rankgrp.txt	Players ranked in several Elo intervals
rankdate.txt	Players ranked in several intervals specified by their birthday
rankcat.txt	Standing by categories
playerlist.txt	Registered players
playercd.txt	History card
pairsN.qtf	Pairing at round N
pairsRR.txt	Round-robin calendar
SortedPairsN.txt	Pairing sorted by player name
FIDE-<TournamentFolder>.txt	Elo Rating Report for FIDE
fidecross.txt	FIDE cross table
fidenorm.txt	Summary of rating performance for each player
fidecard.txt	FIDE history card
elovar.txt	Elo variation
eloprev.txt	Rating variation depending on the result of the current game
crosstable.txt	Cross table
boardcrd.txt, boardcrd.qtf	Board card
*.html	Generated Web pages

2.7 File → Dangerous Stuff

Delete Round will delete the current round and bring Vega to the state of "Waiting for pairing" in the previous round. Vega stores all the data of past rounds so the tournament can be undone right back to the first round this way.
Reset Tournament will return Vega to the first round with the same players, including the late-comers. This could be useful during a simulation of the tournament.
Modify Tournament permits the modification some of the tournament parameters. Please note that the system of play can only be changed by reopening the registration.
Reopen Registration will return Vega to the state it was in before closing the registration. The arbiter must once more close the registration to start the tournament.
Load Round will re-load the round file at round N from backup, if for some reason the normal file is damaged.

2.8 The "Standing" Menu

Rank Rating Group. This generates the file `rankgrp.txt,` containing ranked groups of players, the groups being defined by specifying rating ranges.
Rank Date Group. Generates the file `rankdagr.txt,` containing ranked groups of players, the groups being defined by specifying the year of birthday (format YYYY) ranges. The player date format could be one of the following: ddmmyy (if yy<20, it means 20yy, otherwise it means 19yy). Also valid are yyyy, yyyy.mm.dd, yyyy/mm/dd, with mdy in any order.
Missing Point Score System: This is a new way to calculate the final standing in a Swiss tournament. The method pretends to transform the Swiss system into a round-robin tournament and tries to predict the results of games amongst players that were not paired in the Swiss tournament. This is performed by analyzing the cross table and the relationships between all players via their common opponents. The details of the pairings are saved in the file `mpscorelog.txt,` while the

new ranking is stored in `mpscore.txt`. Further details can be found at `www.vegachess.com/Swiss/missingpoint.htm`

Zermelo Score System, Zermelo Score System Extended: This is a new way to calculate the final standing in a Swiss tournament. See Appendix L for details.

Assign Prize (Hort system). This system aims to better distribute the prize money amongst players on same points at the end of the tournament. Here is an example of this system; suppose 4 players share the same place. The four prizes are as follows: 1st €10.000, 2nd €8.000, 3rd €6.000, 4th €4.000. We have to split €28.000. We split this amount in two equal parts, each of €14.000.
The first part will be split equally and each player receives €3.500.
The second part will be split according to the ranking after a tie-break.
#1 receives €3.500 + €5.000 = €8.500
#2 receives €3.500 + €4.000 = €7.500
#3 receives €3.500 + €3.000 = €6.500
#4 receives €3.500 + €2.000 = €5.500
(Please note that the amounts €5.000, 4.000, 3.000 and 2.000 are just half of the original prizes.)

Rank Teams. This saves a ranking of all teams (players with the same Origin field) participating in the tournament, to file rankTeams.txt. The points of a team are the sum of points of the best N players of that team. N can be defined and its default is 4. It also shows the ranking applied individually to the first N boards.

Rank Categories. This writes a ranking of players grouped by their grading categories to the file rankcat.txt.

Rank Groups. This writes the ranking of a tournament set as explained in Appendix M.

Upset Results: are those results in which a lower rated player win against a higher rated player. The standing is based on the rating difference (draw count half difference) and can be obtained for each round or for all rounds.

2.9 The "Extras" Menu

Items that are not self-explanatory are described below.

Set Group for accelerating pairing. Please see section '2.11.9 Accelerated rounds' for details.

Set group for multi-section tournament. Please see Appendix M for details.

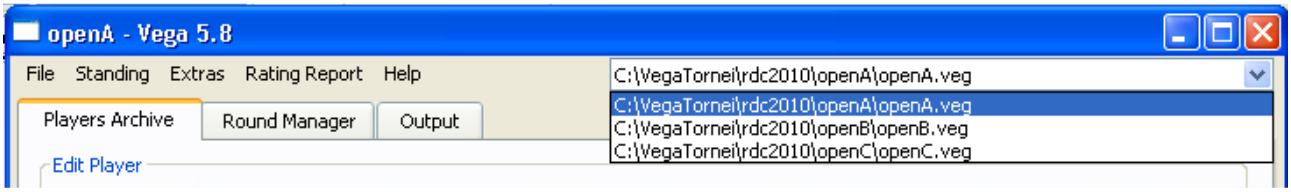
Make Badge. It prepares form with key words to be filled with values referring to the tournament data. The form should be in the folder /badgetemplate in the installation folder. They can be prepared/modified by using the integrated editor in the page Output (icon). These are the key words that can be used:

```
##PLAYERNAME : player name
##TOURNAMENTNAME : tournament name
##RTGFIDE : FIDE rating
##RTGNAT : Rating/grade national Rating/grade
##RTG : Rating/Grade used for pairing
##PLAYERID : player ID during the tournament
##DATAB : tournament begin date
##DATAE : tournament end date
##TITLE : player title
##TOURNAMENTPLACE : place tournament
##COUNTRY : player federation
##IMAGE : player federation flag
```

Set memo message. Lets the TD set a remark that will be prompted at a given round. This feature is useful to take note of those players that need to be excluded/included at a given round.

Set Festival. This permits to indicate the sections of a tournament. A drop down menu will appear on the right side of the menu bar listing all the sections. The user can quickly jump among the

sections selecting them. Before opening a new section the current one is automatically saved.



Round Robin Calendar. This saves all pairings in a round-robin tournament to the file pairsRR.txt.

Add external pairing engine. See Appendix N.

Regenerate pairing number. Vega assigns to each late entrant a progressive pairing number (ID) irrespective of his rating. This will not affect the pairing but may be annoying to see a strong player at bottom of the cross table. In this case this option permit reassignment of the pairing number to all players.

Print Swiss cards: print the Swiss pairing card that can be used in case of manual pairing. If printed at round 1 the cards will be empty, otherwise they will contain all data known at the current round.

R: round;
C: color;
F: floater history according to the selected Swiss system (▼=downfloater, ▲=upfloater);
OPP: opponent id number;
Res: round result;
Score: score at the given round;
Ex: this coloumn must be filled by the arbiter extra data useful for the next pairing, for example the expected color and/or fictious points in case of accelerated Swiss system.

15	Forlano Luigi			
	ITA	CN	2035	

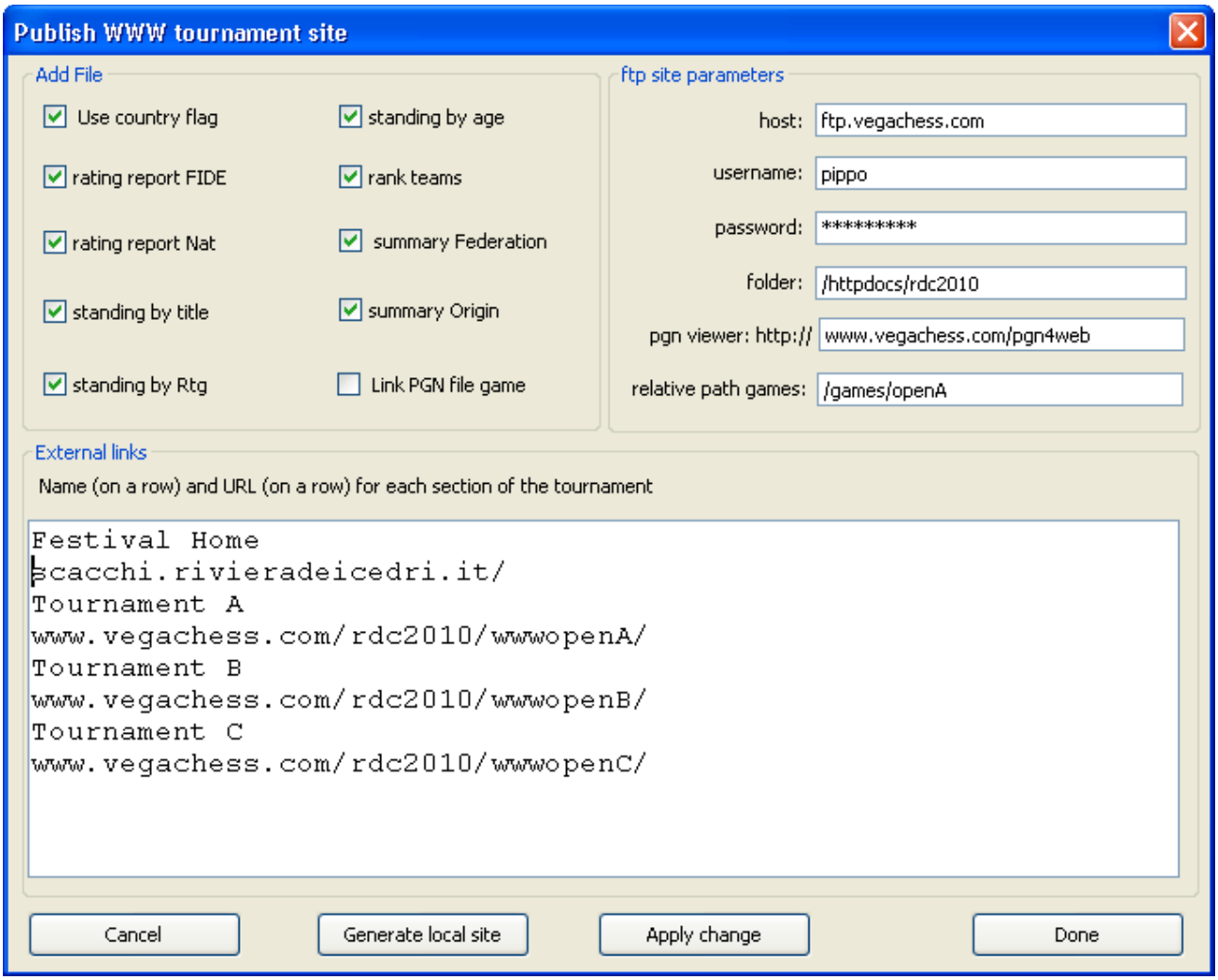
R	C	F	OPP	Res	Score	Ex
1	▫		5	0	**0**	
2	▪		20	0.5	**0.5**	
3	▫		9	0.5	**1**	
4	▪	▼	BYE	0	**1**	
5	▪		21	1	**2**	
6	▫	▼	16	0.5	**2.5**	
7						
8						
9						

WWW Settings. Throughout the tournament, Vega generates Web content in HTML format, in a directory called www<TournamentFolder> (as a subdirectory of the working directory). In this directory, the site home page is a file called index.html. A banner for all pages on the site can be added by putting an image file named logo.jpg into the directory.
In this directory Vega even generates a pgn template (skeleton) file for each round.

> **NOTE***: The user must place the completed pgn file in a different directory to prevent Vega overwriting it!*

The user that wants to publish the site must publish on a server all the files present in www<TournamentFolder>. The web content is automatically updated by Vega while the tournament proceeds.

The user can tune the site using **WWW Settings** from the **Extra** menu.

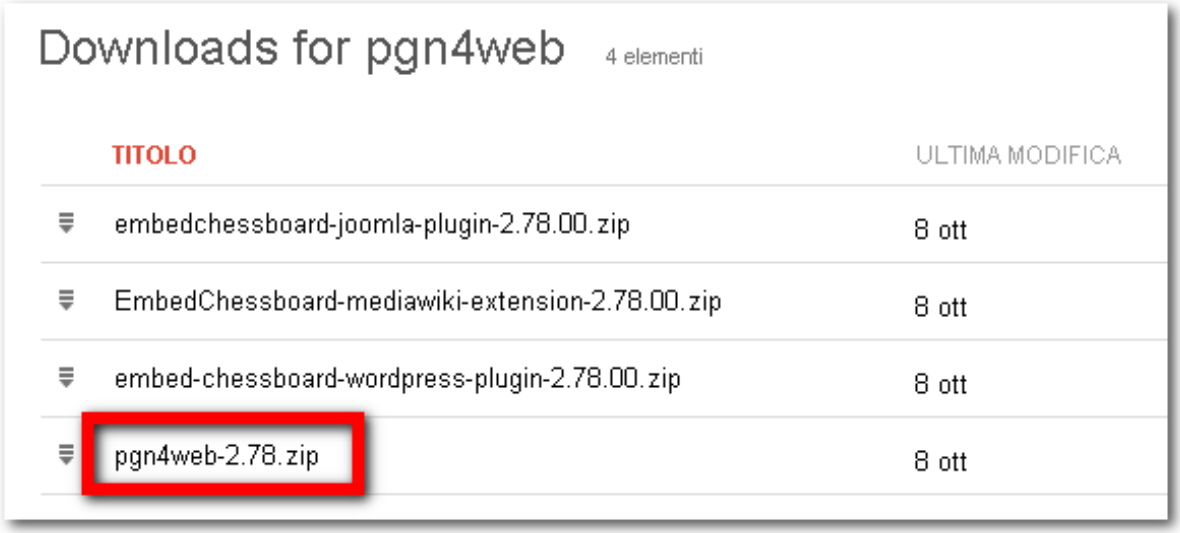


Link pgn file game: if checked, the pgn game files are available for download;

Add rating report FIDE, Add rating report Nat: if checked, an html page is created with the rating (Elo) report for to FIDE or the National federation (the latter currently mostly oriented toward the Italian federation);

Use country flag: if checked, a country flag will appear in place of the country name.

It is possible to install a pgn viewer able to read the pgn games generated by Vega. So far it has been tested the freeware viewer **pgn4web** (http://pgn4web.casaschi.net/)
Download the latest version of pgn4web (see next picture) and unzip in a directory of your computer. Copy this entire directory onto the server. Let's call it **pgn4web/** in the root directory of the server.



Copy the files vega.html and vega.css from the directory pgnviewer (inside the Vega installation directory) in the directory **pgn4web/**. Take note of the server directory in which **pgn4web/** is and put it on the field **pgn viewer** in the setting window.

In the field **relative path games** insert the path relative to your root directory to the one containing the pgn file of your games with name <TournamentFolder>X.pgn, where X is the round. The viewer is now installed and nothing more should be done in the directory containing pgn4web.

While you observe a game, a left mouse click on square E8 opens a popup window with a board set to the current position. You can move pieces by left click of the starting and arrival square. The enabled browser, e.g. Chrome, will even show the evaluation of a chess engine.

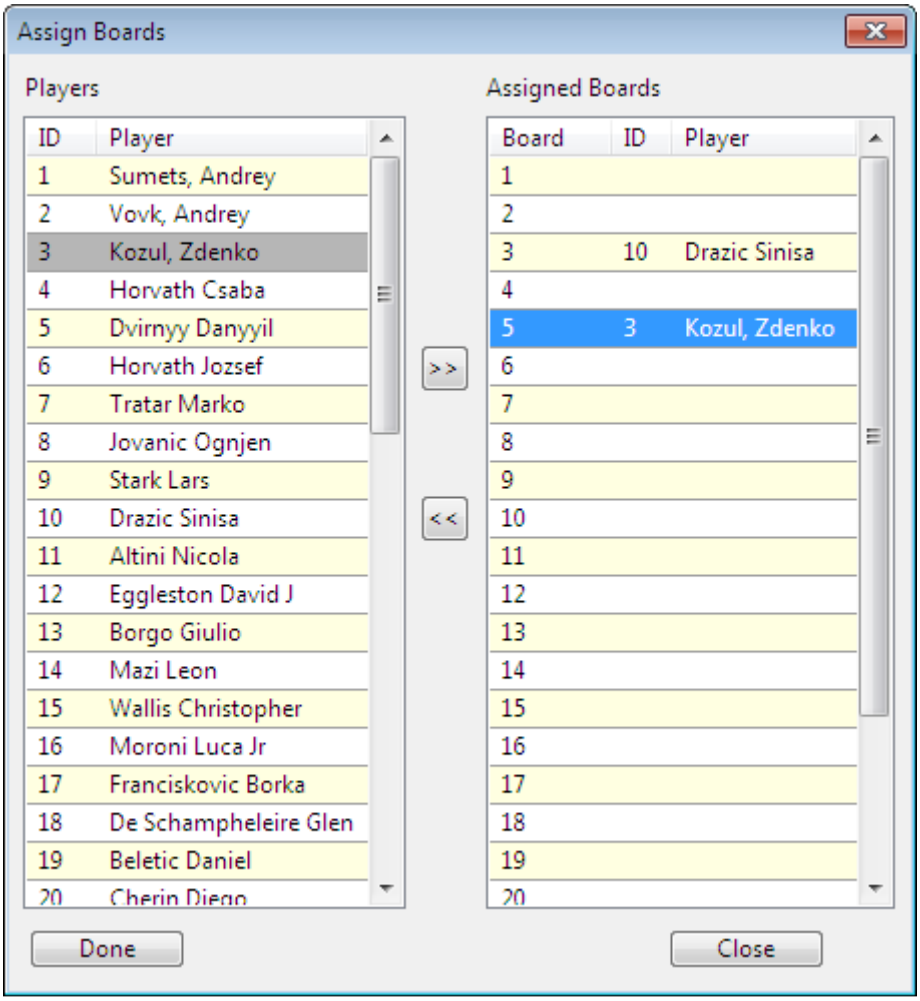
> ***NOTE:*** *The pgn files should be in a dedicated folder to prevent Vega to overwrite them. Their transfer must be done with an appropriate ftp program to the desired directory.*

In the box **External links** the user may add the links to external pages of the site, or other sections of the same event. The link and its alias should be each on a row. The links will be displayed at the top of the window (see next picture).

The box **ftp site parameters** should be filled with the usual parameters to access the site in case the user want to use the embedded ftp client. The field **folder** will contain the www<TournamentFolder> generate by Vega.

The button **Generate local site** permits creation of the web content in case one or more files are missing or damaged.

Assign Players to Board: a player can occupy the same table in each round. This is done (see next picture) by selecting the player and the board, then pressing the button [>>]. To remove him from the assigned board select the board and press [<<].



2.10 The "Rating Report" Menu

From this menu it is possible to generate several rating reports intended for submission to a number of Chess federations.

FIDE:

1. **Rating Report** permits insertion of new data and the creation of a rating report to be sent to FIDE (file fideelo.txt).
2. **History Card:** For a Swiss tournament this contains the player cards of all FIDE rated players and those unrated players that have played against at least one FIDE rated player. The rating variation calculation by Vega uses the following FIDE formula:

   $R = R_0 + K \Sigma_i \ (P_i - PA_i)$

   Where R is the final rating, R_0 is the initial rating, P_i is the player score result of round i (1, 0.5 or 0), PA_i is the score probability depending upon the rating difference between the player and their opponent at round i.

   If K = 0 (the default value) the rating variation will be shown in units of K.
   The player performance for the tournament is calculated using the FIDE procedure described in https://www.fide.com/component/handbook/?id=174&view=article (article 1.48).
   For a single Round Robin tournament with unrated players the rating calculations are made using the FIDE procedure. If the Arbiter wishes to exclude from calculation the results of one or more unrated players he must, at the end of the tournament, set their status to '1/2'.
3. **Find Norm** produces the file `fidenorm.txt` containing a list of players and their performance relative to various title norms (GM, IM, WGM, WIM). Moreover, a grid is

displayed with the same info.

4. **Tournament statistics.** This reports general statistics of the tournament to the file `tourstat.txt`. It contains the number of federations, number of rated and unrated FIDE players, titled players, etc.
5. **Norm certificate IT1:** saves the files `fidenormID=NasX.txt` (in text format) and `fidenormID=NasX.qtf` (in qtf format) containing the FIDE norm certificates: N is the player ID, and X is the sought norm (GM, IM, WGM, WIM).

   WARNING: *Vega performs the calculation regarding the rating and produces a detailed report. It is responsibility of the Arbiter to check that all the FIDE requests are present in order to validate the certificate (i.e. number of unrated, number of titled players, etc...).*

6. **Statistics:** saves the file tourstat.txt containing useful information about the tournament.
7. **Tournament certificate IT3:** produces the file FIDE-IT3.qtf containing statistical information on the tournament.
8. **Import tournament in FIDE format**: can import the data tournament made by another program.

USCF: This generates the files used by USCF (USA) for rating reports (see Appendix O for details).

FSI: This generates rating reports for the Italian chess federation (see the Italian version of this user manual for detail).

ECF: generates rating reports for the English chess federation. (See Appendix H for details.)

DWZ: generates rating reports for the German chess federation.
The option **Convert spieler.csv to utf8** transforms the file spieler.csv in the file newspieler.csv encoded in utf8. The TD needs to import the players from this last file to preserve the accented characters. The file spieler.csv should be downloaded from the site of the German federation.

NZCF: generates rating reports for the New Zealand chess federation.

Generic Tournament Description file: it is a general purpose rating report format. It is very similar to the FIDE one but includes even national data (see Appendix P).

Import/Export XML Tournament Description: this represents the new way Vega will save its tournament. At the moment this format is experimental but in future it will replace the veg file.

Rating report for other federations can be provided free of charge. Please contact the author.

2.11 Special Tasks

2.11.1 Manual Pairing (not for the round-robin system)

Vega allows easy insertion of manual pairings. This is done by pressing the button **Manual**. The pairing continues by filling in the fields labeled ‘White’ and ‘Black’, then pressing the button **Add Pair**. The user can enter IDs with the mouse by selecting the players in the list at the top right of the window. In this list the players are sorted by score, rating and name; it even shows their due color (Col) and whether is changeable or fixed (c=F).

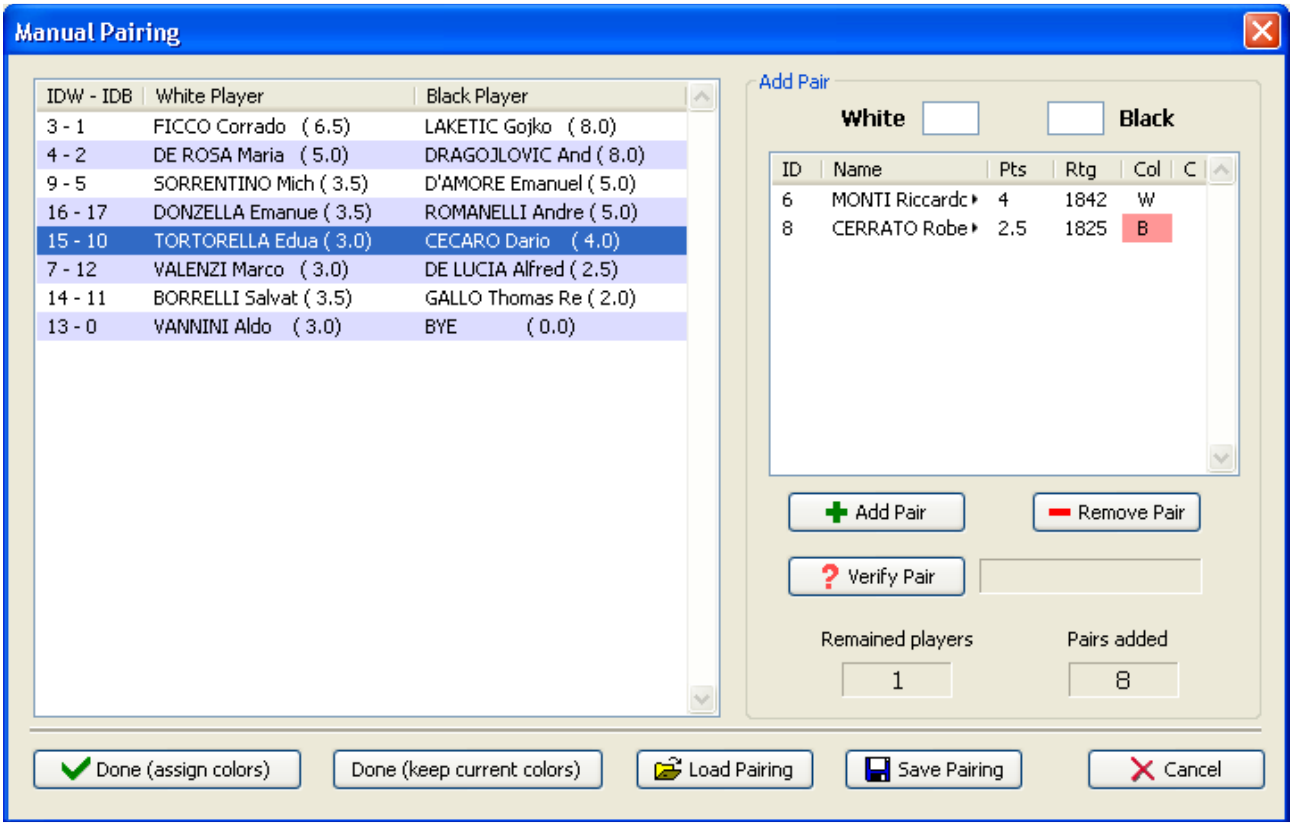
The pair is accepted only if it is legal. The user need not be concerned about the colors because Vega will assign it automatically when the user presses the **Done** button. Only in the first round will Vega accept colors entered by the user.

> ***NOTE:*** *it is recommended that the user has a clear idea about which pairs he wants to add and write down them on paper before proceeding. The user can change the order of the pair or assign a table to a particular pair by selecting the pair and then pressing the keys CTRL+'Up' or CTRL+'Down'.*

If the user just wants to check the legality of a pair, he should press the **Verify Pair** button. To remove an inserted pair the user must press the **Remove Pair** button.

The button **Save Pairing** will write the currently inserted pairings to a file specified by the user. This is useful if there are many pairs to insert and the work cannot be completed in one session.

The function **Load Pairing** allows loading of pairings previously saved. **Please note that Vega will not check the validity of the pairing loaded in this way**. However, the user should be very careful with this option and they are advised to load only pairings saved by Vega itself.


Manual Pairing
IDW - IDB
White Player
Black Player
3 - 1 FICCO Corrado (6.5) LAKETIC Gojko (8.0)
4 - 2 DE ROSA Maria (5.0) DRAGOJLOVIC And (8.0)
9 - 5 SORRENTINO Mich (3.5) D'AMORE Emanuel (5.0)
16 - 17 DONZELLA Emanue (3.5) ROMANELLI Andre (5.0)
15 - 10 TORTORELLA Edua (3.0) CECARO Dario (4.0)
7 - 12 VALENZI Marco (3.0) DE LUCIA Alfred (2.5)
14 - 11 BORRELLI Salvat (3.5) GALLO Thomas Re (2.0)
13 - 0 VANNINI Aldo (3.0) BYE (0.0)
Add Pair
White
Black
ID
Name
Pts
Rtg
Col
C
6 MONTI Riccardc 4 1842 W
8 CERRATO Robe 2.5 1825 B
Add Pair
Remove Pair
Verify Pair
Remained players
1
Pairs added
8
Done (assign colors)
Done (keep current colors)
Load Pairing
Save Pairing
Cancel

During the entry, Vega shows the number of the remaining players to be inserted and the number of pairs already inserted.

In some cases the user might find it useful to load the pairing produced by Vega after pressing the **Automatic** button (see section 2.4). To obtain a preliminary pairing by Vega, the user should press the **Automatic** button and then delete the round generated. Afterwards, the user will find the file *.man corresponding to the current round.

> ***NOTE:*** *the BYE (ID = 0) can be assigned manually in the same pairing as many times as the user wants.*

When entry is finished, the user should click **Done**. Vega will correctly assign the colors (except in the first round) and return to the **Round Manager** page, waiting for a command.

2.11.2 Export Data

The **File → Export** function is useful when the user wants to extract the personal data of the players to be used in other tournaments. There are three possibilities: **Export → All Players, Export → Tournament**, and **Export → Selected Player.**

i) Export → All Players: With this option, the data for every player is exported to a text file. The format of the file, called *Vega* format, is very simple and can be managed by any spreadsheet or text editor. It consists of a first row with the name of the fields followed by the data for each player in subsequent rows separated by a comma. Below shows the first 7 lines of a typical file:

```
NAME;COUNTRY;BIRTHDAY;GENDER;TITLE;IDFIDE;ELOFIDE;IDNAT;ELONAT;KCOEFF
KASPAROV  GARRY    ; RU;13.04.63;m;IGM; 4100018; 2830; 0; 0; 0
KARPOV  ANATOLY    ; RU;23.05.51;m;IGM; 4100026; 2693; 0; 0; 0
GAVRIKOV  VIKTOR   ; LT;29.07.57;m;IGM;12801747; 2570; 0; 0; 0
KUPREICHIK  VIKTOR D; BL;03.07.49;m;IGM;13500066; 2501; 0; 0; 0
KUPOROSOV  VIKTOR   ; RU;26.09.61;m; IM; 4100999; 2470; 0; 0; 0
KRASNOV  VIKTOR A.  ; RU;24.09.50;m; NC; 4161319; 2444; 0; 0; 0
...
```

The maximum length of each field is the following:

- NAME: 30 characters;
- COUNTRY: 3 characters;
- BIRTHDAY: date in the format dd.mm.yy or ddmmyyyy (8 characters);
- GENDER: 1 character (m or f).
- TITLE: 3 characters;
- ID FIDE: 8 characters
- ELOFIDE: 4 digits;
- ID NAT: 8 characters;
- ELONAT: 4 digits;
- KCOEFF: 2 digits;
- ORIGIN: 20 characters.

The players in this archive can be loaded later as described in section 2.11.3.

ii) Export → Tournament. This option is useful in tournaments with many sections. In this situation it is best to have one large tournament, then extract the data for each section, selecting the rating range for each of them (see below):

The user can select players by their national rating, FIDE rating, or both. In any case, each section should be exported to its own directory (folder) -do not mix the sections in the same directory. The exported players are not removed from the current large tournament.

iii) Export → Selected Player: This option is useful when the user wants to move a player from one section to another (note that the player is not removed from the current section). The user should select the player to be moved from the current section and then select the VEG file of the

destination section. This VEG file must not be in use by a running Vega session, otherwise the modification will be lost.

2.11.3 Importing players from a text database

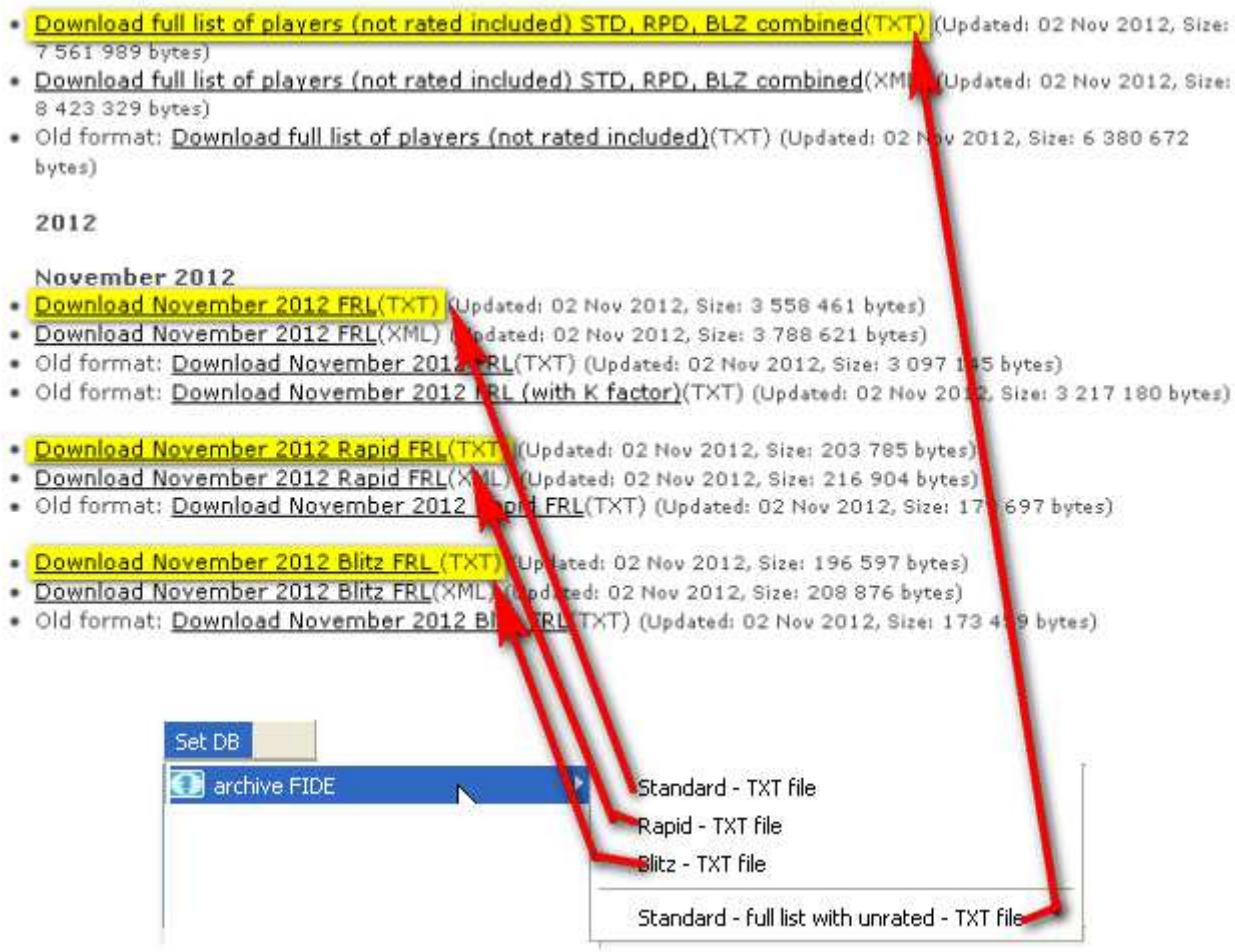
Vega can import players from any formatted text database by using the database tabbed pages in the lower part of the window. The user can defines up to three different databases and work with them simultaneously.

The wanted database is chosen with the option **Set DB**.

Vega offers the option to choose from a list of pre-defined databases, or a custom database either of a format with fixed-length fields or of a generic CSV (Comma Separated Variable) type format.

The pre-defined databases do not need a data filter (it is automatically loaded). However, the custom databases require a filter to inform Vega which fields to import and where they are. This is done by pressing the **Set Filter** button.

Vega comes with the filter `fide.flt` to help import FIDE data and this filter is loaded automatically. By clicking **Done**, the filter becomes active. The user can retrieve players from different FIDE databases all in text format. The correspondence among databases, type of rating to be loaded from each DB and menu item is shown in the next picture.


Download full list of players (not rated included) STD, RPD, BLZ combined(TXT) (Updated: 02 Nov 2012, Size: 7 561 989 bytes)
Download full list of players (not rated included) STD, RPD, BLZ combined(XML) (Updated: 02 Nov 2012, Size: 8 423 329 bytes)
Old format: Download full list of players (not rated included)(TXT) (Updated: 02 Nov 2012, Size: 6 380 672 bytes)
2012
November 2012
Download November 2012 FRL(TXT) (Updated: 02 Nov 2012, Size: 3 558 461 bytes)
Download November 2012 FRL(XML) (Updated: 02 Nov 2012, Size: 3 788 621 bytes)
Old format: Download November 2012 FRL(TXT) (Updated: 02 Nov 2012, Size: 3 097 145 bytes)
Old format: Download November 2012 FRL (with K factor)(TXT) (Updated: 02 Nov 2012, Size: 3 217 180 bytes)
Download November 2012 Rapid FRL(TXT) (Updated: 02 Nov 2012, Size: 203 785 bytes)
Download November 2012 Rapid FRL(XML) (Updated: 02 Nov 2012, Size: 216 904 bytes)
Old format: Download November 2012 Rapid FRL(TXT) (Updated: 02 Nov 2012, Size: 17
Download November 2012 Blitz FRL(TXT) (Updated: 02 Nov 2012, Size: 196 597 bytes)
Download November 2012 Blitz FRL(XML) (Updated: 02 Nov 2012, Size: 208 876 bytes)
Old format: Download November 2012 Blitz FRL(TXT) (Updated: 02 Nov 2012, Size: 173
Set DB
archive FIDE
Standard - TXT file
Rapid - TXT file
Blitz - TXT file
Standard - full list with unrated - TXT file

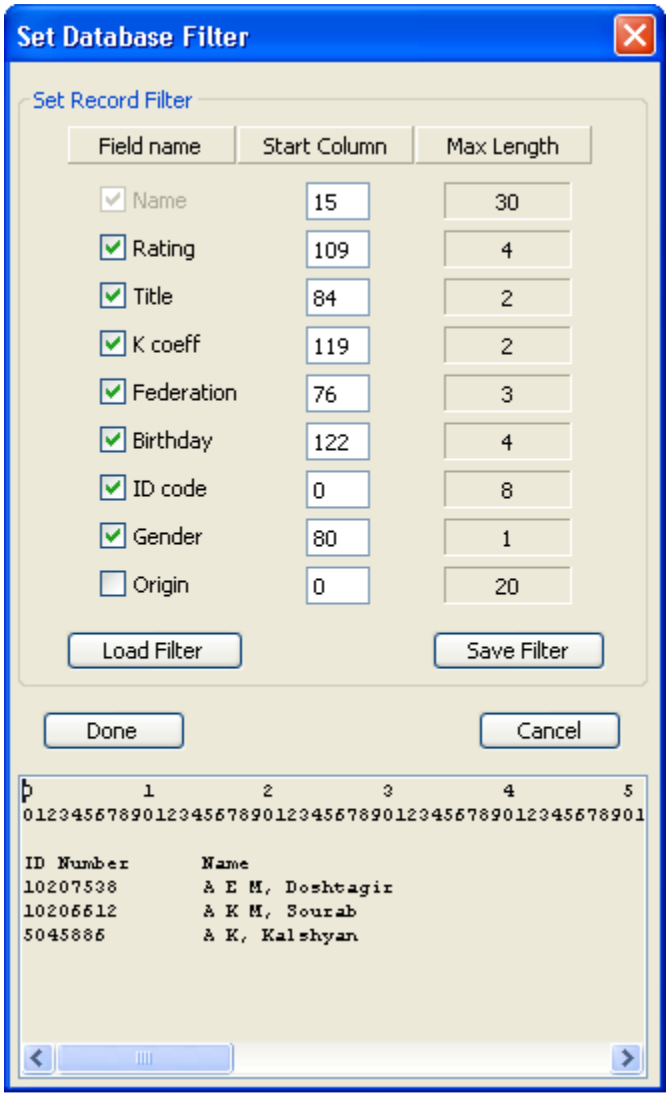
After the filter has been defined, the user must enter a string of **at least 6 characters long**. If the user enters the string ****** all the players in the database are shown (for the FIDE database it is necessary to select a country code to limit the output). The user should ensure there is enough memory in the computer to avoid a program crash that might be caused by loading a huge database.

Vega will show all the players matching the entered string (the search is not case sensitive). To add a player to the tournament, the user must:

- Select a player.
- Double click the selected player or press the ENTER key.
- Select a range of players: Left click of the first player, hold down SHIFT and left click on the last and then press **Add Selected** to import all players at once. The user can also select multiple players by holding down the key CTRL and left-clicking on each player.

A database of type **National Fixed Length** is treated in the same manner to that described above, but the national rating and national ID data populate their respective fields instead of the FIDE ones. The user can configure a filter for their own custom database providing it has fixed length fields.

In the case for which the database has fields with fixed length the following window will appear:



The previous picture shows an example in which the user wants to import the fields Name, Rating, Title, Country, Birthday, ID code and Gender (the corresponding check boxes are pressed). Then for each field the user inserts the column from which begin to read that field (the first column of the record start from 0). The length of each field is fixed by VEGA and specified in Max Length.

The selected filter can be saved for reuse using **Save Filter and** the filter's filename should have a .flt extension. It can be reloaded later with **Load Filter**.

The **CSV database** works with databases in which the fields are delimited by ';'. One needs to define a filter and indicate the fields to be imported. The first field has position 0 (zero). This type of database can be used to import from FIDE or national databases as well as custom-built databases.

> ***Note:*** *In English speaking countries CSV type databases are usually delimited by ',' instead of ';'. This default behavior can be altered on Windows machines by going to Control Panel → Region and Language Settings → Additional Settings → List Separator and changing the ',' to a ';'. Programs such as Excel will then delimit fields with ';' as required.*

The database type **Vega** and **VegaFSI (Italy)** are the easiest in that they don't need a filter and contain both FIDE and national data. In particular, the first one is the native format of Vega's

archive (see section 3.2 for details), while the last one is the format of the Italian Chess Federation.

The option **Update** button is useful when the ratings have been changed and the arbiter needs to synchronize them with the newest value contained in the database. This task uses the player ID and his last name in the selected database.

2.11.4 Vesus (Vega Subscription System)

Vesus is an integrated system that permits the online registration of the players and successive tournament publication. It has been realized by Santino Puleio and on the site www.vesus.org there is a tutorial.

By using Vesus the TD creates a chess event; the players register online to the tournament; then TD using Vega to download all the registered players and can publish the tournament round by round. The system at the moment is based only on the FIDE and FSI (Italian chess federation) database, but in future it will be extended to other Federation. Please contact Puleio for further information.

2.11.5 How to modify the Cross Table of late entrants or byed players.

The user can award the late entrants with points (gained against the BYE) in the round in which they were absent. This procedure can be used even to modify the results against the BYE. For example, if a player enters at round 3 and the user want give him a draw in round 1 and 2:

1. Select a player in the **Players Archive** page.
2. Double click on the desired player.

3. Fill out all the fields and press **Ok**.

Please note that the results inserted this way will not appear in the list of pairs. This just modifies the cross table, so this procedure should only be used in rare cases for assigning a BYE. Please note that a result of **Null** means the game for that round has not been played**.**

2.11.6 Treatment of late entrants (Swiss system only)

This is for players that did not communicate their participation in the tournament and arrive after the first round has started, when player registration cannot be reopened. The late entrants are added using the Edit Player section in the **Players Archive** page. Their registration proceeds as that of normal players with the exception that they cannot be deleted, only modified when necessary. Vega

assigns consecutive IDs to each late entrant as they are entered. Usually the user manually pairs these players against themselves.

> ***NOTE:*** *it is recommended that the user forms a clear idea about what pairs they want to add and writes them down on paper before proceeding!*

For example, we closed the registration with 58 players and generated the pairing for the first round. Then 6 late entrants arrive. Vega will assign them the IDs 59, 60, 61, 62, 63 and 64. Let's suppose the user wants to pair them in this way:

59 60
61 62
63 64

To let Vega add these new pairs the user must press the **Modify Pairing** button. The window for manual pairing appears and at this point, the user can add the new pairs listed above. This way the new pairs will appear in the normal pairing list.

> ***NOTE:*** *The 'Modify Pairing' button can be activated only for the current round (the pairing of the previous rounds cannot be modified).*

2.11.7 Importing results from an external file

In a large blitz tournament with several hundreds of pairs, it is convenient to work with many computers. Each arbiter has one computer and will insert the results for a subset of the total pairings. This task is performed using another program, which will collect all the results and produce a text file with an extension of `*.res` in following format:

1st row: number_of_pairs current_round
and for each successive row: id_white id_black code_result

The value for code_result is that which is reported on the tooltips over buttons in the Insert Result section of the **Round Manager** page. For example the first 6 rows of such a file could be:

```
16   7
9   10   1
8    2   0
7    3   1
19   5   5
1    17   3
…
```

2.11.8 Improving colors

Vega automatically assigns the correct color to each player[1]. However in some cases the arbiter might decide to assign them manually to refine the pairing, exchanging colors. Press the **Improve colors** button in the **Round Manager** page.

A new window will appear (see below) showing the details of the pairs in the current round. The user should pay attention to the colored squares because their colors have special meaning. In fact the due color white is indicated by a white square, the due color black is indicated by black square. A blue square appears for players that have no due color, for example at round 2, after a forfeit game. Inside the square there is a smaller square that is red if the player has a fixed due color, or

[1] If using the USCF Swiss system, Vega will, after the so called *natural pairing* (upper half vs bottom half), improve the color distribution using the "Look Ahead method" described in the *USCF Official Rules - 5th edition.* See Appendix F for further details.

green if the player can change their due color.

To improve the colors, the user should avoid, or at least minimise, the number of pairs in which both players have the same due colors. To this end he should exchange those players by using transposition (exchange between players in the same column) or interchanges (exchange between players in different columns). To exchange two players the user should press the ID-buttons of the selected players. Their IDs will appear in right hand side of the window. Just below this appears the rating difference involved in the exchange.

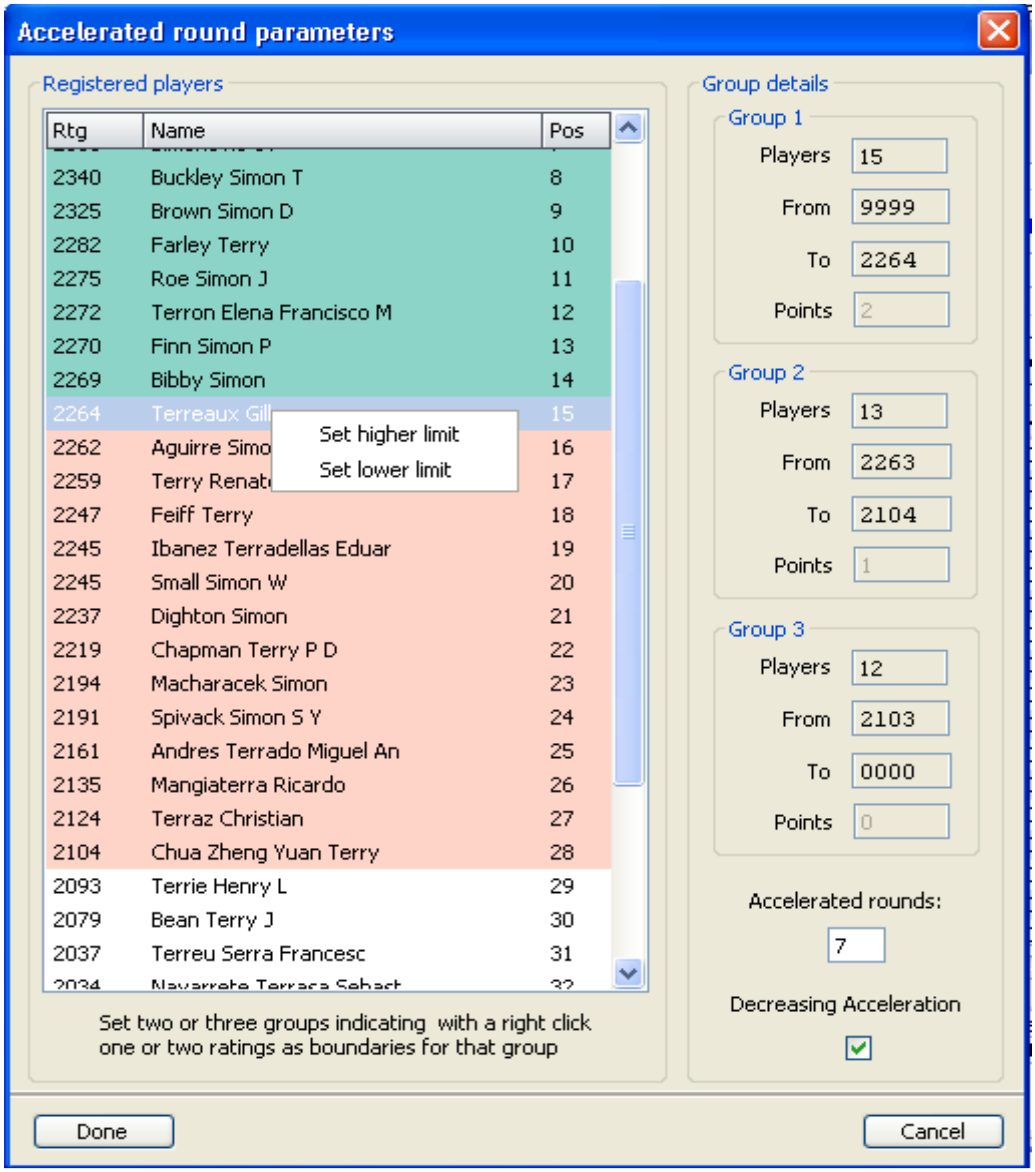
With the button **Exchange Players** the user can exchange the players. Vega will inform the user about the legality of the proposed exchange. If the user needs only to know if the two selected players are compatible they should press the button **Verify Pair**.

To accept the new pairing the user should press **Done** otherwise press **Cancel** to abandon all the changes.

> ***NOTE:*** *Some expert USCF TDs prefer to improve the colors themselves after natural pairing. Vega saves the natural pairing at round N in a file named* `natpairN.man`*. This pairing can first be loaded with the option "Modify Pairing" and then improved using the "Improve colors" option.*

2.11.9 Accelerated rounds

The option **Extra → Set Groups for accelerated rounds** allows the definition of up to three groups of players. The user can choose the boundary of the groups, in terms of rating, by using the context menu (right click on the mouse). See picture below:



The right hand side of the window shows the details of each group after the limits have been chosen.

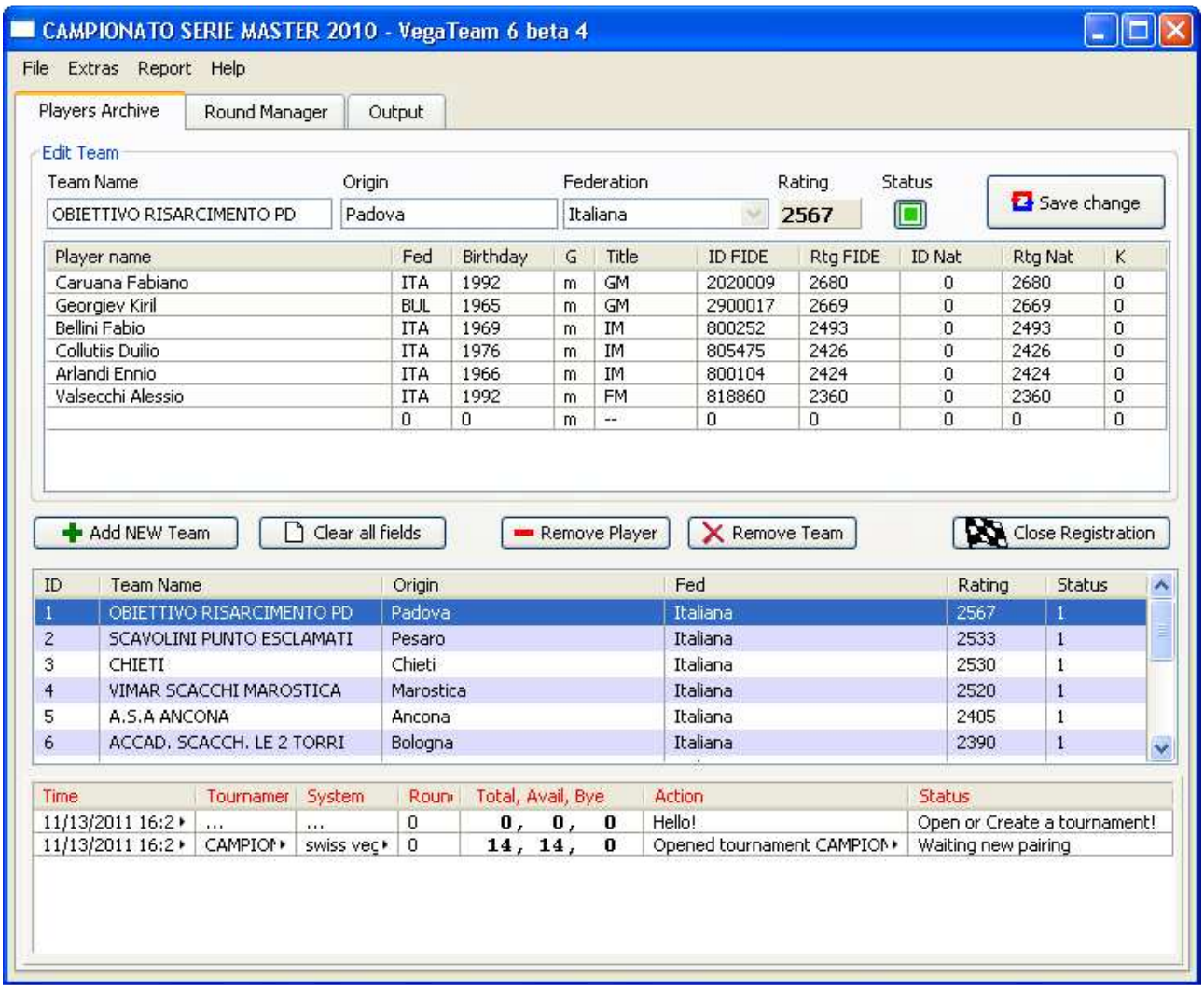
Acceleration works by adding a fictitious number of points to each player's score based on which group they are in. When it comes to pairing, the groups are separated by virtue of the fact that the players are, at least initially, on a different number of points. The user should set the fictitious points for each group and the number of accelerated rounds after which the fictitious points are removed. Please note that the total score of each player showed in the pairing list is the sum real score + fictitious points.

It is possible to run the tournament using a system of acceleration that allows the groups to merge more progressively based on the score of the players. For higher scoring players, the acceleration is

increased by half-points, effectively decreasing the acceleration difference between them and those in higher groups (see Appendix Q). This variant (invented in France) can be activated by clicking the “Decreasing Acceleration” checkbox.

3. Vega for Team Tournament: VegaTeam

Most of the features described in section 2 are also valid for the team version. However, there are a number of differences that are covered in this section.


CAMPIONATO SERIE MASTER 2010 - VegaTeam 6 beta 4
File Extras Report Help
Players Archive
Round Manager
Output
Edit Team
Team Name
Origin
Federation
Rating
Status
OBIETTIVO RISARCIMENTO PD
Padova
Italiana
2567
Save change
Player name Fed Birthday G Title ID FIDE Rtg FIDE ID Nat Rtg Nat K
Caruana Fabiano ITA 1992 m GM 2020009 2680 0 2680 0
Georgiev Kiril BUL 1965 m GM 2900017 2669 0 2669 0
Bellini Fabio ITA 1969 m IM 800252 2493 0 2493 0
Collutiis Duilio ITA 1976 m IM 805475 2426 0 2426 0
Arlandi Ennio ITA 1966 m IM 800104 2424 0 2424 0
Valsecchi Alessio ITA 1992 m FM 818860 2360 0 2360 0
0 0 m -- 0 0 0 0 0
Add NEW Team
Clear all fields
Remove Player
Remove Team
Close Registration
ID Team Name Origin Fed Rating Status
1 OBIETTIVO RISARCIMENTO PD Padova Italiana 2567 1
2 SCAVOLINI PUNTO ESCLAMATI Pesaro Italiana 2533 1
3 CHIETI Chieti Italiana 2530 1
4 VIMAR SCACCHI MAROSTICA Marostica Italiana 2520 1
5 A.S.A ANCONA Ancona Italiana 2405 1
6 ACCAD. SCACCH. LE 2 TORRI Bologna Italiana 2390 1
Time Tournamer System Roun Total, Avail, Bye Action Status
11/13/2011 16:2 ... ... 0 0, 0, 0 Hello! Open or Create a tournament!
11/13/2011 16:2 CAMPION swiss vec 0 14, 14, 0 Opened tournament CAMPION Waiting new pairing

3.1 Creating a New Tournament

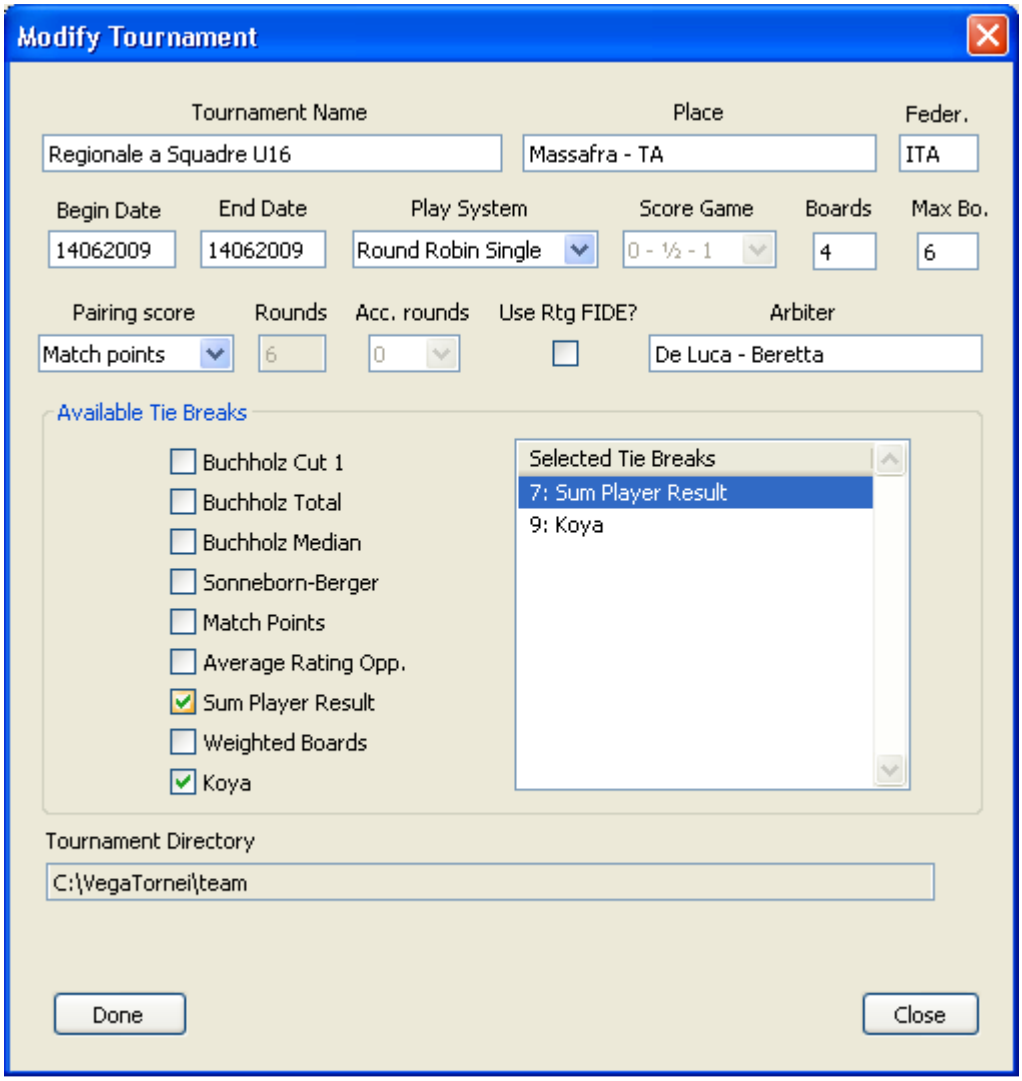
To create a new tournament, proceed as with Vega with **File → New Tournament** in the menu bar. A new form will prompt the user to enter essential information to define the tournament. In particular there are two new fields:

Boards is the number (max 10) of players that will sit at the tables to play.

Max Bo. is the total number of members in a team, i.e. it is Boards plus the reserves. The max value is 10.

Pairing score is the principal score used to rank the teams and to realize the pairing. The user has two possibilities:

- **Sum Player Results**. All points scored by individual players (0 for losses, ½ for draw, and 1 for wins) are accumulated.
- **Match Points**. Points 0, 1, or 2 are assigned to the team after each match. For example, if team A faces team B with 6 players with result of +3 =2 –1, then team A gets 2 points and team B gets zero points.



As far as the **Tie-break** is concerned, the user should be aware that Buchholz and Sonneborn-Berger systems are calculated over the **pairing score** selected from the drop-down above. Moreover, the *Av. Rat. Opp.* is the Average Rating Opponent and *Weighted Boards*, is a sum of individual results where each board is weighted by the following factors:

1 board = 1.9
2 board = 1.7
3 board = 1.5
4 board = 1.3
5 board = 1.1
6 board = 0.9
7 board = 0.7
8 board = 0.5
9 board = 0.3
10 board = 0.1

The Koya system is calculated with respect to the match points.

After creating a tournament, the user must provide information regarding teams and their composition in the **Edit Team** panel. The entry of a team is performed by filling in the fields **Team Name**, **Origin**, **Federation**, **Status** and clicking on **Add NEW Team**. The data is moved down in the team list and the overall rating of the team is assigned automatically as described below. Team

Name is the only mandatory field required to add a team.

The status flag may be

in case of team available for the next round or

in case of a team not participating to the next round.

To add a player, double click on a row and insert the data as usual. Each added team is assigned a rating calculated as the average of its first **Boards** players with the greatest rating (the position of a player at the table does not affect the average rating). For example, in a team of six players with rating: 2600, 2600, 2300, 2300, 2600, 2600, and **Boards** = 4, the average rating of the team is 2600.

The players can be sorted in different ways by simply clicking on the header of a given column.

To change a team that has already been added, the user should:

1 Select the team in the Team list.
2 Modify its data and eventually modify the player list.
3 Click on **Save Change** button.

To delete a team the user should:

1. Select the team in the Team list;
2. Click on **Remove Team**.

3.2 Closing the Registration

When the user has finished entering the teams, they must click on the **Close Registration** button to start the tournament. A unique pairing number is assigned to each team. Each player is assigned a unique number using the formula:

ID_player = (ID_team – 1) x 10 + B, where B run from 1 to 10

Thus the players, for example, of team with ID=7 will numbered as 71, 72, 73, ... When the registration is finished it is not possible to delete a team or add a new one. Instead the user can only modify the present team.

3.3 New Pairing

The pairing is performed in the usual manner.

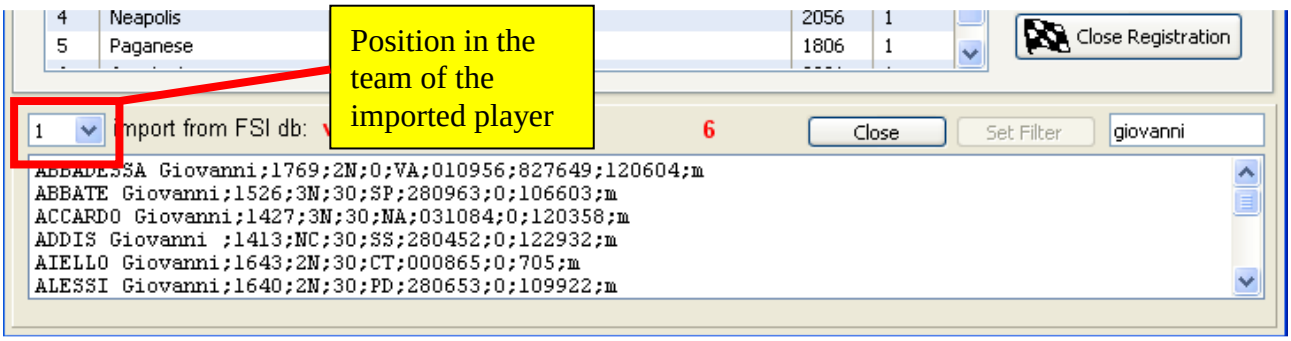
3.4 Entering the Results

The window is split in two parts. The top part shows the pairing amongst teams, while the bottom part shows the pairing amongst the corresponding players. The result should be entered into the **Insert board results** panel, while in the left panel **Team** composition the user can select the players participing in the next match.
VegaTeam will automatically move on to the next match when all players have got their results.

CAMPIONATO SERIE MASTER 2010 - VegaTeam 6 beta 4
File Extras Report Help
Players Archive
Round Manager
Output
N White Team Black Team IDW-IDB Result Score
1 OBIETTIVO RISAR (0.0) TRESTINA A (0.0) 1 - 8 ... 0.0 - 0.0
2 IL MASSIMO BANC (0.0) SCAVOLINI PUNTO (0.0) 9 - 2 ... 0.0 - 0.0
3 CHIETI (0.0) LA ZISA PALERMO (0.0) 3 - 10 ... 0.0 - 0.0
4 CSKB TORVECA CA (0.0) VIMAR SCACCHI M (0.0) 11 - 4 ... 0.0 - 0.0
5 A.S.A ANCONA (0.0) LATINA (0.0) 5 - 12 ... 0.0 - 0.0
6 AUGUSTA PERUSIA (0.0) ACCAD. SCACCH. (0.0) 13 - 6 ... 0.0 - 0.0
7 MONTEBELLUNA 1 (0.0) CARIGE GENOVA (0.0) 7 - 14 ... 0.0 - 0.0
Team composition
B Team 1 Team 2
Update composition
Insert board results
Bo. OBIETTIVO RISARCIMENTO P TRESTINA A Pair Result
1 1 : Caruana Fabiano 72 : Skoberne Jure 1 - 72 ...
2 3 : Bellini Fabio 73 : Lostuzzi Manlio 3 - 73 ...
3 4 : Collutiis Duilio 74 : Cherin Diego 4 - 74 ...
4 5 : Arlandi Ennio 75 : De Eccher Stefano 5 - 75 ...
1 – 0 0 – 1 ½–½ 1F-0F 0F-1F 0F-0F ? - ?
Round 1
New Pairing
Verbose output
Accept WWW/BBB
Danubian Variant (Dubov)
Avoid pairs
Automatic
Verbose
Modify Pairing
Manual
Print Pairing
Improve Colors
Update CrossT

3.5 Importing Players from a Formatted Database

VegaTeam can import players from any formatted textual database by using the option **File → Connect Database,** just as Vega does.



3.6 Extra/Add Team Preference Menu Item

This option can be used to perform automatic task during the insertion of a team. The user will be asked to check two boxes:

Sort players by rating: if checked the players are sorted with the highest ranked player at the top of the list. If unchecked the list remain as that made by the user.

Fill with fictitious players: if checked the rows left empty in the player list will be filled with dummy names. For example, if the team name is Thunder the players are named Thunder_1, Thunder_2, ... This option is useful in case the user wants quickly to run the tournament and only later wants to insert the real name of each player.

Appendix A: Frequently Asked Questions (FAQs)

1. May I have the source code?
No, sorry... maybe in future.

2. Can I exchange the colors of a pair?
Yes, of course. Just double click on the table that shows the pairing.

3. Why is the Linux version freeware?
I'm very indebted with the Linux community and this is a way to give something back. From other side Vega born under Linux. The cost of maintaining the code and provide the upgrades are covered by the Windows version. If a Linux user wants to contribute he can consider registering a Windows version.

4. What I have to do if my tournament is made by many sections. It seems Vega can administer only one section.
Not at all! You can administer simultaneously however many sections you want... of course depending upon the memory capability of your computer. Vega can manage one section but you can run many sessions of the program at the same time and simply switch among them by using the Set Festival option.

5. I am not a registered user and I need your help. Can you answer me?
Of course yes! Usually I answer within 12 hours from your email. If there is a delay, it is because I am abroad or far from an internet point. If you do not get an answer within few days, it is likely I have not received your email so please send it again.

6. Is there a software house behind Vega?
No. The author is a chess player, FIDE arbiter and organizer that knows very well what an arbiter really needs. The author is the first user of the program. For this reason the program is very cheap and there is no upgrade cost while it remains freeware for Linux.
However, if a TD needs a feature not present in the current version just let me know. I'll consider implementing it for free.

7. I would like to print/save the file players.html with the players sorted by national rating.
Click on the header column to be sorted then use the option **Print Players**.

8. Can I change the error message and the words in the menu and error message?
Yes. First open a DOS (Linux) terminal and move using "cd" in the directory where Vega.exe resides. Then execute the command:

Vega.exe --export-tr enus_

(for other languages substitute enus_ with : dede_ for German, eses_ for Spanish, frfr_ for French, ruru_ for the Russian, itit_ for Italian). In the same directory Vega will save the file enus_.tr with the translation that can be modified (the first item is the key, while the second one is the translation).

8. Vega does not recognize the draw. All the points made by draw are not reported in the output.
This may appear in some very old Linux distributions. It happens when the decimal separator is the ",". Please modify your environment and set instead the ".".

9. I'm not a registered user. Can I run the freeware Linux version under Windows by using an emulator/virtual machine?
No, it is not permitted.

10. How do I use the registration code? I do not see where I can enter the serial number.
Just save the registration file I sent you by email in the same directory of the executable (where the program has been installed). That's all.

11. Can I run the registered version on both my desktop and notebook?
Yes of course. You can run it on any number of computers. It is only required that in a real tournament with more than 30 players the organizer or at least one of the arbiters has a valid registration.

12. Do you accept suggestions? I need this feature...
Yes, please let me know your request. I will implement it for free if it is of general use. I want to filter all requests to maintain the program easy to use and very intuitive. If you like programs with million options and not intuitive interface there are around many good softwares for you.

13. The version 5.5 is not able to read tournaments created by a previous version.
This is expected. The 5.5 version has a new VEG format (one file instead of two) and there is no backward compatibility with the previous version. Sorry for any troubles this can cause.

14. Which Swiss system should I use for my tournament?
Here is short table showing the main features of the systems implemented in Vega:

System	Feature	Preferable if	To avoid if
Dubov	It tries to treat each player in the same way: In the same score group all players should have the same performance. If all are treated in the same way the stronger player should make more points to win the tournament. The player that plays on the first board it is not automatically favored in case of tie-break	There are many rounds (greater than 7) and the rating of the players differ by less than 200-300 Elo points.	The rounds are less than 8 or the rating of players differ by more than 200-300 Elo points.
Dutch	The priority is the rating. The player with a higher rating will face stronger opponents and in the case of a tie-break it has some advantage. It is the most popular pairing system.	There are few rounds and the color assignment is not important.	
Lim	The priority is the color. The player with a higher rating will face stronger opponents and in the case of a tiebreak it has some advantage.	There are few rounds and the color assignment is important.	
USCF	The priority is the rating. Two arbiters could produce different pairing but equally legal.	There are few rounds and the color assignment is of no concern.	
Vega	It uses the Buchholz for pairing.	The players have no rating or if it is more or less the same.	The players have no rating or it is distributed over a small interval.

15. How to set the result of an unrated game in Vega?

Before 2009 for the FIDE a game could be considered in two ways:
(a) played and rated;
(b) unplayed and unrated.

Since July 2009 a new possibility appeared and a game could be considered
(c) played but unrated.

> *B.04.5.1 (Unplayed games). "Whether these occur because of forfeiture or any other reason, they are not counted. Any game where both players have made at least one move will be rated."*

The case (c) appears when the player loses without performing the first move (for example when a mobile telephone produces a noise). The result appears on the cross table but does not produce rating variation. In this case the arbiter needs to insert an unrated result using the **NON standard result** button

. The unrated results are those with "U". See also question 20.

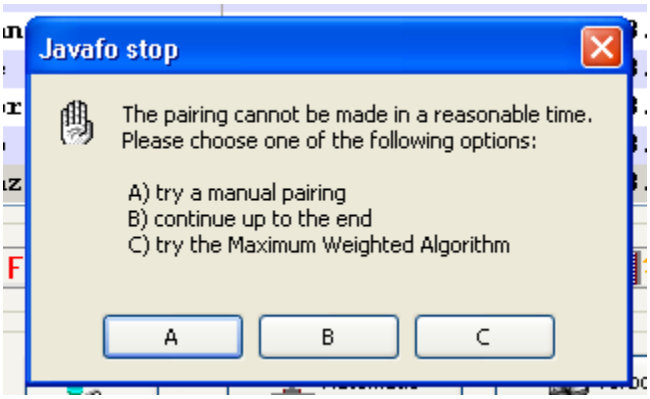
16. In a round robin tournament a player withdrew before playing 50% of the games. How to delete all his games and ignore them during the calculation of the Sonneborn-Berger tie-break?
Set the player status flag to the red [**X**].

17. I have noticed that Vega does not operate correctly when the folder pathname contains non-standard characters.
This has been fixed with version 6. Vega had problems when the pathname of the tournament folder contained accented characters, space or sign as °ç@#€%&. Anyway, I suggest using only standard characters to make possible moving the file onto different operating systems and not produce problem to the generated web site.

18. I got the following message. What I have to do and what does it mean?

An experienced arbiter knows that in special cases the pairing cannot be done in a reasonable time due to the great amount of transpositions and/or exchanges to be performed. In some cases this task can be challenging even for a computer, in that it may need several hours to get the wanted pairing and not just any pairing. As an example, try running a 10 round tournament with 20 players and at each round assigning a draw to every game. Try this with several programs, even FIDE endorsed ones, and observe the results and their correctness, which we found very questionable.

JaVaFo is able to recognise the difficult cases and when one is met it stops the calculations and displays the following message:


Javafo stop
The pairing cannot be made in a reasonable time.
Please choose one of the following options:
A) try a manual pairing
B) continue up to the end
C) try the Maximum Weighted Algorithm
A
B
C

The user may try a manual pairing by pressing button A (not recommended). If the user has time (hours or days) he can try button B. Otherwise the user may try the button C that uses an alternative algorithm much faster and able to get the same result of the slower one. If the option C produces a message "The pairing is impossible" it is useless to try option B.

During a tournament the suggested order is: Option C and then option A.

If the user tries the option B he may can stop the “java” process by pressing the key combination CTRL+ALT+CANC or shutdown the computer in case it does not respond.

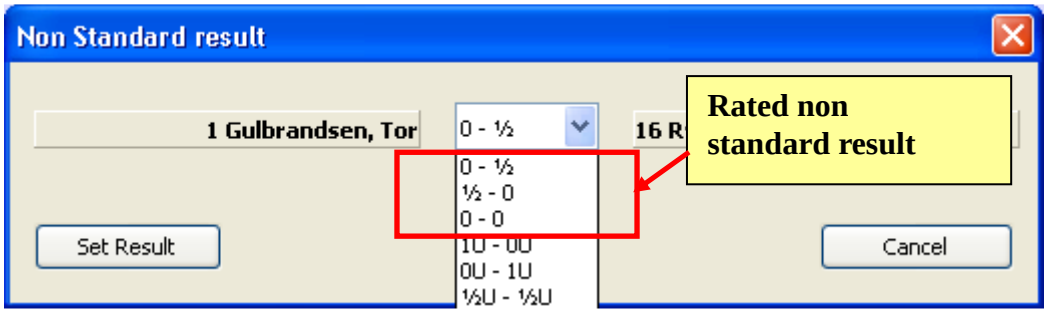
19. I started a new tournament. I first entered a player as unrated and made the pairing. He was awarded a bye. Then deleted the first round, modified the player with a different rating, sorted, saved and made the pairing. In spite of the player having a rating, it still showed him as a bye (there are a few unrated players).

You sorted the players clicking the "Rtg. FIDE" header in the page ‘Players’. That does not really affect the order of the player but only how they are displayed on the screen. The correct procedure to assign the new ID to the players is from menu **Extras / Regenerate pairing number** and then performing the pairing.

20. How to insert a RATED non-standard result like ½ - 0 or 0 – ½.

This is easily made with the **NON standard result** button

that prompts the following window:



The first three results (without ‘U’ - Unrated) are the rated ones. The remaining results with ‘U’ are the unrated ones.

21. Can I realize a pairing forcing one or two pairs?
Yes, of course. First make unavailable the players you want to pair as you wish. Then make the automatic pairing. In it the unavailable players will be of course absent. Now make the previous players available. Choose manual pairing and add those players in the wanted pairs.

22. How does Vega calculate the Average Rating of Opponents for tie-break? Does it take in account unrated players and give just 0 for them?
Vega uses the player's rating for pairing purposes as described on page 7. If the player is both FIDE and national unrated then for pairing (and tie-break) purpose 0 is used. In this case the ARO is not a good tie-break (better the ARO cut 1). Moreover, the arbiter should set the rating at some reasonable minimum to let the Swiss system based on rating work properly.

23. I would like to import a document in Word but the .qtf files are difficult to handle.
The .qtf file that you may need are already automatically showed by Vega in the **Output** tab page. If you want to import in Word just select the text you like in Vega and copy and paste in Word.

24. The FIDE unrated player entered the tournament with rating 0. This made the ARO calculation not reliable.
It is responsibility of the arbiter to set a suitable rating to a player for pairing purpose. You may set in the National Rating field his national rating and it will be used for pairing and ARO tie-break calculations.

25. I set five tie-break criteria but Vega shows only three.

The standing obtained via the button offers an elegant print-out but is limited to three tie-break criteria. If you need to show all use the option

that shows the standing in a text file.

26. I run Windows 7 as user. I created a tournament in the installation directory and JaVaFo (Swiss Dutch system) doesn't give me the pairing.
It is normal. Create the folder tournament OUT of that directory, like in c:\myTournaments. Moreover if the problem continues, enter your system as administrator, right click the Vega.exe file and set its property to run always as administrator. This is due to Java (JRE) not having the permission to write the output to the Program folder.

27. How to print the results of previous rounds?
In page "Round Manager" select the round you desire and then press the print pairing button.

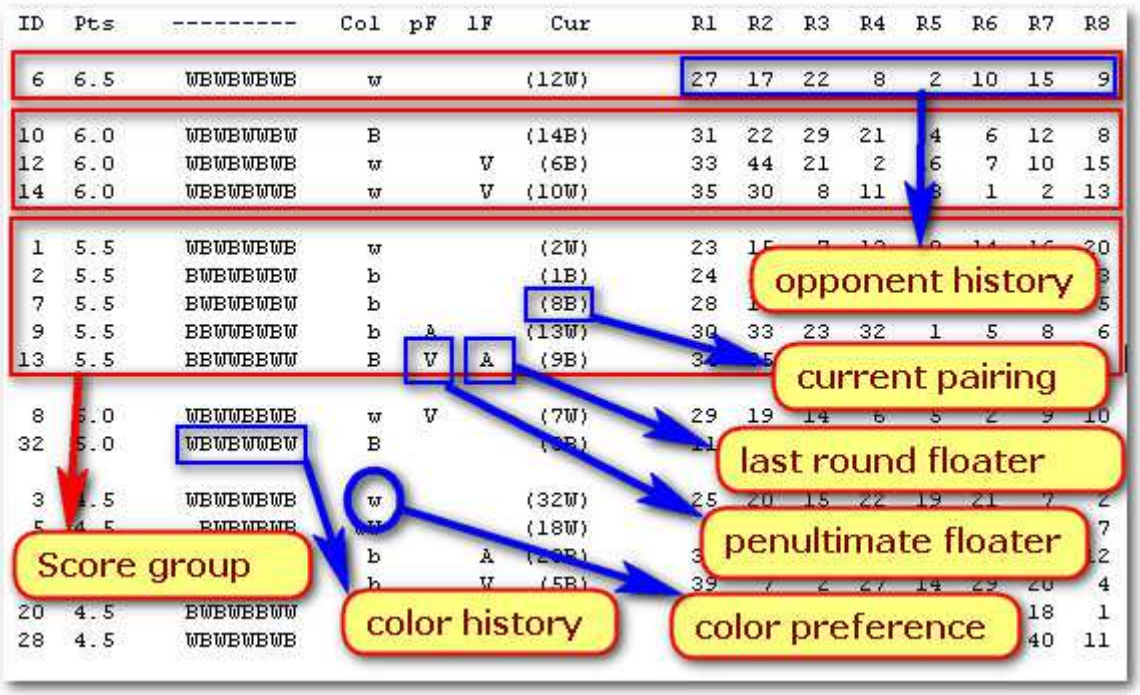
28. How to modify the player card to put on the table?
The cards are generated using a template file in qtf format in the folder badgetemplate. Those files can be changed and new cards can be created. Use the built in editor (icon [W] in the output page) to open it and save.

29. In a big tournament it would be very nice to print a pairing file in which the players are sorted alphabetically

That file is already present. At round X it is named SortedPairsX.txt. You can load it in the Output page by clicking the yellow folder.

30. How to interpret the file that appears by pressing the verbose button in conjunction with the Dutch Swiss system?

That file is a sort of check list useful to check the pairing made by the javafo engine. This is a typical output with a legend:



Each row refers to a player indicated by the ID number. Then follows his score. The red box show a whole score group (players having the same points). Each score group is separated by a blank row.
The 'Col' column indicate the color preference for the new pairing (in our case it is the round 9).
These are the used codes:
W : absolute white preference
B : absolute black preference
wW : almost absolute white preference (A7.d – odd round)
bB : almost absolute black preference (A7.d – odd round)
w : strong white preference (even round) or weak white preference (odd round)
b : strong black preference (even round) or weak black preference (odd round)
Aw : variable white preference (A7.e – even round)
Ab : variable black preference (A7.e – even round)
A : no preference (if never played)

The color history shows the color given to a player. The sign '-' means that in a round he didn't play. This sign appear always at the beginning of the list irrespective of when it really occurred.
The column pF and lF shows the floater history at the penultimate and last round respectively. 'V' means he was a downfloater; 'A' means he was an upfloater.
The columns 'Cur' indicate the new calculated pairing (opponent and assigned color).
The remaining columns Rx refer to the opponent at previous rounds.

31. I can't get the first pairing from JaVaFo
Please install the Java runtime at 32 bit.

32. The tournament I run used the FIDE rating as principal rating. However the national history card show still players with FIDE rating instead of the national one.

The National History card is based on the rating used for pairing purpose. In your case it is the FIDE rating. In case you run the tournament using the national rating then the history card will look as you expect. In other words I do not recommend to show the history cards in your case.

Appendix B: Registration File and License

Anyone who uses Vega under Windows with more than 30 players needs a registration file. Before version 7 such a file was called **regcode.txt** and sent to the user. This file needed to be saved in the installation folder.

Since version 7 the registration file has a different format and called **serial.txt.** After buying it the file will be sent **by** email as an attachment**.** The user should save the attached file (without modifying or renaming it) in the installation folder.

Appendix C: Round Robin

The pairings obtained by the Berger's tables have disadvantages when the number of players is even. In the following it is shown how to improve them ([2]).

Two simple definitions that will be used in this paper:

2N number of players
#X player with the X draw number

As a sample start, here is the Berger table for 10 players:

1	1	2	3	4	5
	10	9	8	7	6

2	10	7	8	9	1
	6	5	4	3	2

3	2	3	4	5	6
	10	1	9	8	7

4	10	8	9	1	2
	7	6	5	4	3

5	3	4	5	6	7
	10	2	1	9	8

6	10	9	1	2	3
	8	7	6	5	4

7	4	5	6	7	8
	10	3	2	1	9

8	10	1	2	3	4
	9	8	7	6	5

9	5	6	7	8	9
	10	4	3	2	1

This is usually acceptable, until two things are noticed:

1. there is one player (#1) that always starts the tournament with two whites and another player (#N+1 = 6 in the previous table) always starts with two blacks; this may be considered weird
2. because of how the Berger tables are generated, for 2N-2 players (#N and #2N are the exceptions), the color that they have in the first round is the opposite of what they get in the last round. Therefore, if there is a double round robin tournament, having to revert the color from round 1 in round N+1, in rounds N and N+1 those 2N-2 players get twice the same color. This is not easily avoidable. But an undesired consequence of this is that #1 and #N+1, that have the same color in the first two rounds, get three blacks (#1) or three whites (#N+1).

So a recommendation was put in the rules ([3]): exchange round N-1 and round N in the front cycle. Although this adjustment introduces some asymmetry between the front and the back cycle, it avoids the streak of three consecutive whites or blacks. Still the #1 plays four times with black in a five round span (conversely #N+1 plays four times with white).

Rotating tables

If we exclude the first round, each player plays once with white and once with black every two rounds. It is the first round that complicates matters and makes somebody start the first two rounds with the same color. Also it creates problems in double-round Round Robin, as shown above.

The idea is to move the first round in the middle of the round-robin. Or more precisely in the middle of pairs of rounds <2K, 2K+1>.

For instance, let's look at our 10 round example: after excluding round 1, we have 4 pairs of rounds 2-3, 4-5,

[2] The following Appendix relies heavily on a document authored by FIDE Arbiter Roberto Ricca

[3] FIDE handbook, C.06 - Annex 1: Berger Tables for Round-Robin Tournaments: "For a double-round tournament it is recommended to reverse the order of the last two rounds of the first cycle. This is to avoid three consecutive games with the same colour."

6-7 and 8-9. We could move round 1 exactly in the middle. And in order not to break the original Berger tables, we just rotate it. In other words we start with the original round 6, then 7, then 8, then 9, now round 1 and then round 2, round 3, round 4, round 5.

Let's call it a **Rotate-6 Berger Table**, i.e. the original Berger Table for 10 players rotated in a way that Round-6 is the first one to be played. There could be also a Rotate-4 or a Rotate-8 (same principle) for 10 players. When the players are six, Rotate-4 is the only sensible option (see below).
In this way we get the followind advantages:

1. Everybody starts the tournament with at least one white and one black; the unmatching round is found in the middle of the tournament; after that round everybody ends the tournament with pairs of rounds playing once with white and once with black
2. In a double round robin we can't avoid that all players but two will repeat the color between round #N and #N+1, but this time there is no risk to get thrice the same color as everybody ends the first round-robin with one white and one black and starts the second one with one white and one black.

Let's give a graphical look at some tables (in the pair <#X/#X+N>, the "bullet" means white for #X and black for #X+N; yellow highlighting stands for the same color in more rounds)

Original Berger Table for double round robin - 10 players

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1/6	●	●		●		●		●				●		●		●		●
2/7	●		●	●		●		●			●			●		●		●
3/8	●		●		●	●		●			●		●			●		●
4/9	●		●		●		●	●			●		●		●			●
5/10	●		●		●		●		●		●		●		●		●	

Analysis: 10 times a player gets the same color twice in a row, once a player gets it thrice in a row. Also: between rounds 7 and 11 or between rounds 9 and 13, the players #1/#6 get the same color four times in five rounds. Same goes for #2/#7 between rounds 9 and 13.

Adjusted Berger Table for double round robin - 10 players
Rounds 8-9 are switched

	1	2	3	4	5	6	7	9	8	10	11	12	13	14	15	16	17	18
1/6	●	●		●		●			●			●		●		●		●
2/7	●		●	●		●			●		●			●		●		●
3/8	●		●		●	●			●		●		●			●		●
4/9	●		●		●		●		●		●		●		●			●
5/10	●		●		●		●	●			●		●		●		●	

Analysis: 12 times a player gets the same color twice in a row. Only players #1/#4 get the same color four times in five rounds

Rotate-6 Berger Table for double round robin - 10 players

	6	7	8	9	1	2	3	4	5	15	16	17	18	10	11	12	13	14
1/6	●		●		●	●		●			●		●			●		●
2/7	●		●		●		●	●			●		●		●			●
3/8	●		●		●		●		●		●		●		●		●	
4/9		●	●		●		●		●	●			●		●		●	
5/10		●		●	●		●		●	●		●			●		●	

Analysis: 12 times a player gets the same color twice in a row; nobody gets the same color four times in five rounds

However, the most popular double round-robin is the format with six players. In this case, the original Berger table is wrecked as always:

Original Berger Table - 6 players										
	1	2	3	4	5	6	7	8	9	10
1/4	●	●		●				●		●
2/5	●		●	●			●			●
3/6	●		●		●		●		●	

but the adjusted Berger table looks better than a Rotate-4 Berger table because there are only two players that get the same colour four times in five rounds as opposed to four.

Adjusted Berger Table - 6 players										
	1	2	3	5	4	6	7	8	9	10
1/4	●	●			●			●		●
2/5	●		●		●		●			●
3/6	●		●	●			●		●	

Rotate-4 Berger Table - 6 players										
	4	5	1	2	3	9	10	6	7	8
1/4	●		●	●			●			●
2/5	●		●		●		●		●	
3/6		●	●		●	●			●	

A new solution: the Adjusted system

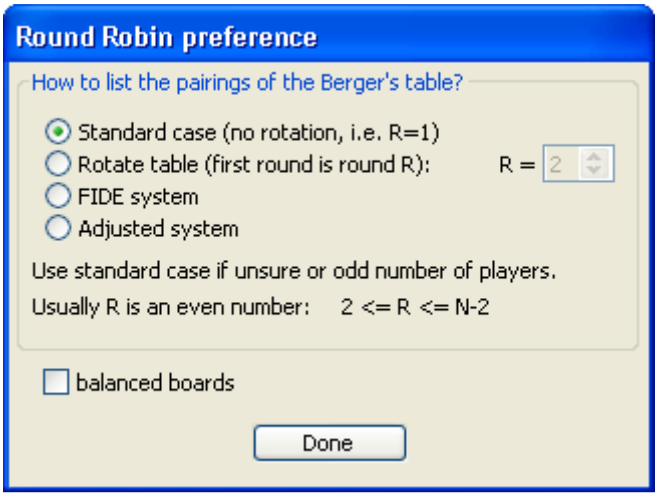
The Adjusted Berger Table still breaks the principle of symmetry between the front cycle and the back cycle. If we decide that this route is worthy, there is a close-to-perfect solution where all players, for **ALL** pairs of rounds, play exactly once with white and once with black: a Rotate-2 Berger Table in the front cycle and a normal (reverted) Berger table in the back cycle.
Here is the graphical look for six players:

	2	3	4	5	1	6	7	8	9	10
1/4	●		●		●			●		●
2/5		●	●		●		●			●
3/6		●		●	●		●		●	

Nobody plays four times in five rounds with the same color and in no moment of the round-robin will a player get a color difference of +2 or -2.

The disadvantage is obvious: right in the middle of the tournament, two back-to-back games are played with the same opponent.

The considerations of this Appendix have been implemented in Vega. At the closure of the registration of a Round Robin tournament Vega asks the user to choose how to sort the rounds of the Berger table (the default is the standard case):


Round Robin preference
How to list the pairings of the Berger's table?
Standard case (no rotation, i.e. R=1)
Rotate table (first round is round R):
R = 2
FIDE system
Adjusted system
Use standard case if unsure or odd number of players.
Usually R is an even number: 2 <= R <= N-2
balanced boards
Done

The options *FIDE system* and *Adjusted system* are of course available only for a double Round Robin. In case of a rotated table the user can enter any number R between 1 and N-1, although only even numbers make sense according to the previous discussion.

The **balanced boards** option (if checked) distributes the players uniformly among the boards. It means that each player will sit at the same board at least once and not more than twice. This task is made by Vega using standard algorithm. However for the cases with N=10, 16, 22 players no Berger table can be easily generated at request. In these cases the table can be found via a heuristic method. For the case N=10, 16 Vega uses the built-in balanced Berger table provided by the Arbiter and programmer Andrea Griffini. The table for N=22 is due to the Arbiter and programmer Roberto Ricca.

Appendix D: The FIDE Dubov System (FDS)

The following description is taken from the FIDE handbook.

C.04.3. The DUBOV Swiss Pairing System (Based on Rating)
Approved by the 1997 General Assembly.

Preface:

The DUBOV Swiss Pairing System is designed to maximise the fair treatment of the players. This means that a player having a higher rating performance than another player during a tournament should have more points as well.

If the average rating of all players is nearly equal, like in a round-robin tournament, the goal is reached. As a Swiss System is a more or less statistical system, this goal can only be reached approximately.

The approach is the attempt to equalise the average rating of the opponents of all players of a score group. Therefore the pairing of a round will pair players who have played low rated players before with players having high ratings now.

1. Introductory definitions

"R" is the rating of a player
"ARO" is the average rating of a player's opponents. ARO must be calculated after each round as basis of the pairings.
The "due color of a player is white",
- if he has played more games with black than with white before
- if these numbers are equal and he has played black his previous game.
The "due color of a player is black",
- if he has played more games with white than with black before
- if these numbers are equal and he has played white his previous game.

2. Pairings limitations

2.1 Two players who have played each other shall not be paired again.
2.2 A player who has received a point without playing shall not receive a bye.
2.3 The difference of the number of black and the number of white games shall not be greater than 2 or less than -2.
2.4 A player shall not have the same color three times in a row.
2.5 Apart from the last round a player cannot be transferred to a higher score group two times running and more than three times (if the tournament has less than 10 rounds) or four times (if the tournament has more than 9 rounds) during one tournament.
2.6 A player shall not be transferred from the subgroup due to a color to the subgroup due to the other color if this would violate the limitations 2.3 or 2.4.

3. Color allocation.

When pairing two players the color allocation shall take into account with descending priority:
- giving both players their due color

- equalising the numbers of black and white games played before
- alternating the colors of both players regarding the first difference of their color history going back from the previous round to the first round
- assigning white to the player with the higher ARO
- assigning white to the player with the lower R.

4. Odd number of players at the tournament.

The player from the lowest score group, who has the lowest R will get the bye.
If there are players with the lowest R in both the color subgroups, then the player to get the bye must be due to the dominating color and in case there are several players with equal R, the player to get the bye must have the higher ARO.

5. Pairing for the first round.

The player's list calculated before is divided into two equal parts: The players from the upper part of the list are placed on the left and those from the lower part, on the right. The first player from the left-hand list plays the first player from the right-hand list, the second plays the second, etc. After that, the color of the pieces is determined by drawing lots for one of the pairs, for example, for the first pair. In such a case, all odd-numbered pairs have the same colors as the first pair, whereas all even-numbered pairs have the other color.

If the number of the players is odd, the last player in the list gets the bye having no color.
This pairing procedure leads to identical results as the procedures used within the other FIDE Swiss Systems.

6. The standard pairing procedure for the remaining rounds.

6.1 Standard requirement (Special cases see below chapter 7):
The number of players having the same score is even and the number of players with due color white and black is the same. Each player in the score group has at least one possible opponent in the score group.

6.2 First attempt
The players who should play with the white pieces are arranged in order of increasing ARO , the ARO being the same the player with the lower R is placed higher. If ARO and R coincide completely, the players are to be placed alphabetically.
The players who should play the black pieces are arranged in order of decreasing R, if R is the same, the player with the higher ARO is placed higher. If ARO and R coincide completely, the players are to be placed alphabetically.
Two columns of numbers are written down, thereby arranging the pairs.
For example:

White (ARO)	Black (R)
2310.0	2380
2318.4	2365
2322.3	2300
2333.7	2280
2340.5	2260
2344.6	2250

The names of the players are then written down, and only one fact is checked - whether the players have not played their opponents before.

6.3 Improvements
If the players have already played each other, then the "white" player is paired with the first "black" player whom he has not played before, from the lower rows;
If such a coincidence takes place in the last row for a group of players with the same score, then the last but one row is changed.
If a coincidence takes place in a row No. k of a group with the same score and all the "blacks" from the lower group have already played with the "white" No. k, then we change the pairing in row No. k - 1, if this does not work, in row No.k-2, etc.
If the "white" No. k has already played with all the "blacks", we look for an opponent for him, beginning with the "white" No.k+1 down to the end of the column, and then, beginning with the "white" No. k -1 down to the "white" No.1. The colors of the pairings are assigned due to the color allocation rules.

6.4 Floater
The aim of the pairing procedure is to pair all players within a score group.
If that cannot be achieved the remaining unpaired players are transferred to the next lower score group and treated according to chapter 8.
If there is a choice the floaters should be chosen due to these characteristics with decreasing preference:
- the player was not floater from higher score groups and can be paired in the lower score group;
- the player was not floater from higher score groups and cannot be paired in the lower score group;
- the player was floater from higher score groups and can be paired in the lower score group;
- the player was floater from higher score groups and cannot be paired in the lower score group.

7. Transfer of players to meet the requirement of Chapter 6.

If the requirement of the standard pairing procedure is not fully fulfilled the following transfers shall be carried out in the order listed below

7.1 If a player has already played with all the players of his own score group, a player from the next possible lower score group is transferred to the score group to be paired who has not yet played with the player in question and can be paired according to the color allocation rules.
The player to be transferred should fulfill the following requirements with descending priority:
- the due color is opposite to the due color of the player in question;
- if there is a choice, then the player with the highest R is to be transferred;
- if there are more than one players having the same R then the one with the lowest ARO will be transferred.

7.2 If the number of players of the score group odd, a player from the next possible lower score group shall be transferred to the score group to be paired, who has not yet played with at least one of the players of the higher score group and is allowed to be paired according to the color allocation rules.
This player to be transferred should fulfill the following requirements with descending priority:
- his due color is opposite to the dominating due color of the higher score group;
- if there is a choice, then the player with the highest R is to be transferred;
- if there are more than one players having the same R then the one with the lowest ARO will be transferred.

7.3 If the number of players in the score group is even and the number of Whites exceeds the Blacks by 2n, then n "white" players, who have the lowest ARO, are transferred to the black group. If their

ARO is equal, the player with the higher R is chosen. Should both (ARO and R) coincide completely, the list of the players is arranged alphabetically, the transfer being made from the upper half.

7.4 If the number of players with the same score is even and the number of Whites is smaller than the number of Blacks by 2n, then n "black" players, who have the highest ARO, are transferred to the white group. If their ARO is equal, the player with the lower R is chosen. Should both (ARO and R) coincide completely, the list of the players is arranged alphabetically, the transfer being made from the upper half.

8. Treatment of floaters

8.1 Priority of floater-pairing
The floaters having due color white are arranged according to chapter 6.2.
The floaters having due color black are arranged according to chapter 6.2.
Beginning with the highest "white" floater the floaters are paired one by one going down to the lowest floater alternating between "white" and "black".

8.2 Pairing the floaters
Each of the floaters is paired with the player having the highest R, if possible having the opposite due color. If there are more than one player with equal R, the player with the lowest ARO is chosen.

9. Final remarks

The list of AROs should be published after each round to make it possible for the players to calculate the pairings on their own.
A situation, which cannot be directly resolved by using the given instructions, the referee should proceed wisely and impartially in the spirit of the basic principles outlined above.

Appendix E: Vega and the Dubov System

The description of the FDS (FIDE Dubov System) in Appendix D states that in the Dubov system the player with a higher ARO will play against a player with a low rating and vice versa. The preliminary tasks done by an arbiter before producing a pairing using such a system are the following:

1. Calculate the Average Rating Opponent (ARO) of each player;
2. Determine the due color of each player as in chapter 1 of the FDS;
3. Put each player in a score group according to his score and due color.

With respect to the other Swiss systems, the Dubov system requires more preliminary work if the arbiter is not helped by a computer. In contrast, the subsequent pairing is much easier to perform than other Swiss systems.

Standard case (chapter 6 FDS)

Let's examine first the standard case, i.e. that for which in a score group the number of white and black players is the same. The next picture shows a simple standard case with 10 players. Each player is in their respective due color subgroup. The white subgroup is sorted in order of increasing ARO, while the black one is sorted in order of decreasing rating (Rat).

```
-------------------------------------------
Group 4, score = 1.5
-------------------------------------------
               white |  black
ID   ARO    Rat  c  u |   ID   ARO    Rat  c  u
-------------------------------------------
16 1122.3 1592       |    2 1664.0 1777     N
23 1578.7 1551       |    6 1590.0 1700
 5 1579.0 1715       |   14 1624.7 1622
11 1604.7 1643       |   15 1613.5 1613
 3 1607.0 1777       |   18 1610.0 1580  F
```

Player ID=2, ARO=1664, Rat=1777, cannot upfloat (**u=N**), i.e. cannot be transfered in a higher score group

Player ID=18, ARO=1610, Rat=1580, has a fixed due color (**c=F**), i.e. an absolute color preference

The Vega output shows two very useful flags. The flag 'c' indicates if the player can "**c**hange due color": the value F means not (Fixed due color). Two players having the same due color and c=F cannot face each other without exception because of their absolute color preference (see chapter 2.6, FDS). The flag 'u' indicates if the player can "**u**pfloat", that is if he can play with an opponent with a greater score: the value N means 'Not' (see below for further notes about u flag).

In the case above, the pairing proceeds trying the pairs 16-2, 23-6, etc... providing that these players have never played each other before. Otherwise, we must form other pairs (chapter 6.3, FDS). Then the color allocation is done as in chapter 3.

Before starting a pairing in the standard case, we must be sure that each player in the score group has at least one opponent. Nevertheless it may happen that the pairing cannot be done because unpaired players remain, the floaters. There is a special kind of floater that can be discovered easily in a score group. It is that player that cannot play with any other player in his score group irrespective of the transposition and exchange we could try. Let's call this floater "island". The island is a floater, but the floater may be not an island. The treatment of the floaters is covered in chapter 8, while the islands are treated in chapter 7.1.

The Dubov System works on the premise of the standard case. When this does not occur the score

group has to be patched stepwise as follows:

1. To each player who cannot play any opponent in his score group (the island) find a suitable opponent due to chapter 7.1 in the next lower score group;

2. If the number of players in a score group is odd (after step 1 has been done) find a suitable additional player due to chapter 7.2 in the next lower score group;

3. Equalize the number of players with due color white and black (chapters 7.3 and 7.4).

Now let's examine some examples of non-standard cases.

"Island" case (chapter 7.1 FDS)

In a score group we can have n islands. In the case of one island his opponent is looked for in the next lower score group with the following priority:

1. opposite due color
2. highest rating
3. lowest ARO
4. same due color
5. highest rating
6. lowest ARO

For example, in the following situation:

```
------------------------------------------------
 Group 4, score = 6
------------------------------------------------
                 white |  black
  ID   ARO   Rat  c  u |   ID   ARO   Rat  c  u
  ---------------------------------------------
  34 1707.0 1570       |   29 1697.1 1613
  35 1823.6 1565       |
------------------------------------------------
 Group 5, score = 5.5
------------------------------------------------
                 white |  black
  ID   ARO   Rat  c  u |   ID   ARO   Rat  c  u
  ---------------------------------------------
  32 1700.4 1580       |    8 1864.7 2156     N
   7 1891.3 2202       |   20 1823.8 1700
                       |   28 1844.7 1622  F
```

Player 35 is an island because he has already played with 34 and 29. Vega found for him the opponent 20 (please note that the compatible opponent 8 with higher rating than 20 is stopped by the flag u=N). To understand the messages of Vega in the verbose.txt file the user should know that when a player is transferred:

- **D** symbol refers to the lower score group (**D**own);
- **U** symbol refers to the higher score group (**U**p);
- D and U are followed by a number that says how many pairs we can realize in that group with the remained players. For example, D=2 means that down, after a player has been removed, the remained players can realize 2 pairs; U=3 means that up, with the arrival of a new player, it is possible to do 3 pairs;
- The number that follows D or U can be positive or negative. If it is negative then it represents the **maximum** possible number of pairs that we can realize in that group. So when Vega try to get an opponent to make even a group it tries to choose the one that maximise U and D to limit the floaters.

```
================================
 Pairing group 4
================================
[Ch 7.1] found 1 ISLAND(s):  35,       Player 35 is an island
    ... 20 better opponent: (D=-2)

20 is the better opponent and in his score group, 5, with the remained
players we will realize 2 pairs, the maximum.

    > moving player 35 from [4 W] to floater group 4
    > moving player 20 from [5 B] to opponent group 4

[4 W] means score group 4 and white due color: [5 B] means score group 5 due color
black. The "floater" group is a logical space in which are parked the
islands/floaters before to pair them with an appropriate opponent.

[Standard case] 1 White e 1 Black
  34           - 29

In the score group 4 now are remained the players 34 and 29 that can be paired
```

Odd score group case (chapter 7.2 FDS)

When the number of players in a score group is odd, a suitable player must be found in the next lower score group. This player, of course, must not be an island in the score group where he is going to be transferred. Moreover he must be found with the following priority:

1. opposite due color of the dominant due color of the higher score group;
2. highest rating;
3. lowest ARO;
4. same due color of the dominant due color of the higher score group;
5. highest rating;
6. lowest ARO.

Unequal numbers of players with due color white and black (chapter 7.3 and 7.4 FDS)

This is the last step to be done after the previous case 7.1 and 7.2 if necessary. In this case simply we must equalise the colors. Let's consider the following case in which we are treating the score group 6:

```
---------------------------------------------
 Group 6, score = 1
---------------------------------------------
                 white |  black
  ID   ARO   Rat  c  u |   ID   ARO   Rat  c  u
  ---------------------------------------------
  11 1915.0 2100       |    4 1984.8 2268
   3 1998.5 2361       |
   7 2002.0 2213       |
   8 2004.8 2162  F  N |
  19 2033.3 1918       |
  27 2049.5 1789       |

---------------------------------------------
 Group 7, score = 0
---------------------------------------------
                 white |  black
  ID   ARO   Rat  c  u |   ID   ARO   Rat  c  u
  ---------------------------------------------
  16 2059.3 1997       |
```

First, we must even group 6. Vega’s output is the following:

```
================================
 Pairing group 6
================================
[Ch 7.2] Group odd! 6 White e 1 Black
    > moving player 16 from [7 W] to [6 W]

[Ch 7.3 7.4] Colors not equal 7 White e 1 Black
    > moving player 11 from [6 W] to [6 B]
    > moving player 3 from [6 W] to [6 B]
    > moving player 7 from [6 W] to [6 B]

[Standard case] 4 White e 4 Black
  8             - 3
  19            - 7
  27            - 4
  16            - 11
```

Suppressing rule 2.5 of FDS ([4])

The arbiter should always keep in mind that Dubov's system is a Swiss system that tries to pair players having the same scores or with the minimum score difference. This means that, although not clearly stated, in special situations the rule 2.5 should be neglected to avoid new floaters. For example, in the following situation:

```
-----------------------------------------------
 Group 1, score = 6.5
-----------------------------------------------
                 white |  black
  ID   ARO   Rat  c  u |   ID   ARO   Rat  c  u
  ---------------------------------------------
                       |   12 2018.4 2095  F
-----------------------------------------------
 Group 2, score = 5.5
-----------------------------------------------
                 white |  black
  ID   ARO   Rat  c  u |   ID   ARO   Rat  c  u
  ---------------------------------------------
   5 2036.8 2219  F  N |    9 1968.6 2136     N
  20 2113.1 1889       |
```

Apparently, only player 20 could face player 12 while players 5 and 9 are blocked in their own group (u = N) and can't play with 12. However, 20 faced player 12 so, for necessity, we neglect rule 2.5 and try to pair 12 first with 5 and then with 9. Let's examine another case:

```
-----------------------------------------------
 Group 5, score = 5
-----------------------------------------------
                 white |  black
  ID   ARO   Rat  c  u |   ID   ARO   Rat  c  u
  ---------------------------------------------
  43 1704.3 1461       |   32 1710.1 1580
  29 1710.1 1613       |   34 1708.8 1570
  21 1719.4 1691       |   35 1840.3 1565
   9 1739.0 2151  F    |
-----------------------------------------------
 Group 6, score = 4.5
-----------------------------------------------
                 white |  black
  ID   ARO   Rat  c  u |   ID   ARO   Rat  c  u
  ---------------------------------------------
  23 1892.4 1673       |    3 1789.6 2287
                       |   28 1795.6 1622
```

[4] Vega's author is indebted to Professor Dubov for the clarification of this important aspect.

```
================================
 Pairing group 5
================================
[Ch 7.2] Group odd! 4 White e 3 Black
    ... better upfloater:3 (U=-4, D=0)
if we transfer player 3 in group 5, then we can realise 4 pairs (the maximum
possible). However in group 6 we'll produce no pair with the remaining players
that would become floaters. So Vega try a better upfloater...
    ... better upfloater:23 (U=-4, D=-1)
player 23 is better than 3 because no additional floaters will be produced in
group 6
    > moving player 23 from [6 W] to [5 W]
player 23 is moved up in the white subgroup

[Ch 7.3 7.4] Colors not equal 5 White e 3 Black
    > moving player 43 from [5 W] to [5 B]

[Standard case] 4 White e 4 Black
  29           - 32
  21           - 34
  9            - 43
  23           - 35

================================
 Pairing group 6
================================
[Ch 7.3 7.4] Colors not equal 0 White e 2 Black
    > moving player 28 from [6 B] to [6 W]

[Standard case] 1 White e 1 Black
  28           - 3
```

Let's see the last case with two islands and how new floaters are avoided with a smart choice of their opponents:

```
------------------------------------------------
 Group 7, score = 6.5
------------------------------------------------
                 white |  black
  ID   ARO   Rat  c  u |   ID   ARO   Rat  c  u
  ----------------------------------------------
  23 1891.1 1673       |    1 2013.8 2344
                       |    7 1847.8 2202
------------------------------------------------
 Group 8, score = 6
------------------------------------------------
                 white |  black
  ID   ARO   Rat  c  u |   ID   ARO   Rat  c  u
  ----------------------------------------------
  12 1686.1 2054       |   11 1732.7 2073
  43 1709.8 1461       |   17 1680.7 1777
  21 1801.5 1691       |   25 1734.7 1643     N

================================
 Pairing group 7
================================
[Ch 7.1] found 2 ISLAND(s):  7,  1,
    ... better opponents 12, 21: (D=1)
    if we transfer players 12 and 21 in group 8 will be possible only one pair.
    ... better opponents 21, 43: (D=-2)
    with players 21 and 43 instead we can pair all the remaining four players

    > moving player 1 from [7 B] to floater group 7
    > moving player 21 from [W G8] to opponent group 7

    > moving player 7 from [7 B] to floater group 7
    > moving player 43 from [W G8] to opponent group 7
================================
```

```
 Pairing group 8
================================
[Ch 7.3 7.4] Colors not equal 1 White e 3 Black
    > moving player 25 from [8 B] to [8 W]
[Standard case] 2 White e 2 Black
  12   - 17
   25   - 11
```

Appendix F: The *VEGA* Pairing System

I'm sorry but the translation is not yet ready. Any way it is a sort of Dubov system with two big differences:
1) in each score group the player having white due color are sorted by increasing Buchholz, while the black ones are sorted by decreasing Buchholz;
2) in case of odd number of players in a score group a player from the lower score group is upfloated.

1. Definizioni introduttive

Il colore spettante a un giocatore è il bianco,
- se prima ha giocato più partite con il nero che con il bianco,
- se il numero fosse pari ma ha avuto il nero nel turno precedente.

Il colore spettante a un giocatore è il nero,
- se prima ha giocato più partite con il bianco che con il nero,
- se il numero fosse pari ma ha avuto il bianco nel turno precedente.

"bye" è la vittoria data a quel giocatore che in un turno con numero dispari di giocatori non ha avuto avversario.

"Floater" è il giocatore costretto ad essere accoppiato con un avversario avente punteggio inferiore.

"Bucholz" di un giocatore è la somma dei punti degli avversari di quel giocatore. Nel caso di partite vinte a forfait o per BYE allora al computo del bucholz interviene lo stesso punteggio del giocatore. Esso deve essere determinato dopo ciascun turno come base per il nuovo abbinamento.

"Score group" è il gruppo di giocatori aventi lo stesso punteggio.

2. Restrizioni nell'abbinamento

2.1 Non possono essere abbinati due giocatori che abbiano già giocato tra loro.

2.2 Un giocatore che ha ottenuto un punto senza giocare, non può ricevere il bye.

2.3 La differenza tra il numero di partite giocate col bianco e col nero non può essere maggiore di 2 o minore di -2

2.4 Un giocatore non può ricevere tre volte di fila lo stesso colore.

2.5 La differenza di punti tra giocatori accoppiati deve essere la minima possibile, idealmente essa deve essere zero.

3. Attribuzione del colore

Abbinando due giocatori, l'assegnazione del colore terrà conto con priorità discendente dei seguenti criteri:
- dare a entrambi i giocatori il colore spettante
- pareggiare il numero di partite già giocate con il bianco e con il nero
- alternare il colore di entrambi i giocatori basandosi sulla prima differenza della loro sequenza di colorì, risalendo dall'ultimo turno giocato fino al primo turno
- assegnare il bianco al giocatore con il bucholz maggiore

4. Torneo con numero dispari di partecipanti

Il giocatore del gruppo di punteggio più basso con il bucholz minore riceverà il bye.
Se ci sono giocatori con lo stesso bucholz in entrambi i sottogruppi di colore, allora il bye sarà dato a quello del gruppo di colore dominante. In caso di ulteriore parità si procederà

alfabeticamente.

5. Abbinamenti per il primo turno

All’inizio del torneo a ciascun giocatore è assegnato un numero identificativo progressivo tramite sorteggio. Quindi l’abbinamento del primo turno avverrà facendo giocare il giocatore col numero 1 con quello col numero n/2+1, il giocatore col numero 2 con quello col numero n/2+2, ecc... Il bianco verrà assegnato ai primi n/2 giocatori aventi numero dispari (1, 3, 5, ecc…).

6. Procedure di abbinamento per i turni successivi

6.1 Prima operazione
I giocatori che dovrebbero giocare con il bianco, inclusi i floater da un altro SG, vengono ordinati in base ai punti e a parità di punti in base al bucholz crescente, se il bucholz è pari si considera l'ordine alfabetico.
I giocatori che dovrebbero giocare con il nero vengono ordinati in base ai punti e a parità di punti in base al bucholz decrescente. Se i bucholz sono uguali si considera l'ordine alfabetico.
Vengono scritte due colonne di numeri, quindi vengono abbinate: il primo bianco col primo nero, il secondo bianco col secondo nero, ecc.... Per esempio

Bianco	Nero
5.00	15.00
7.00	13.50
7.50	12.50
14.50	11.00
18.50	9.00

Vengono poi scritti i nomi dei giocatori e si verifica solo se si sono già incontrati precedentemente.

6.2 Perfezionamento
Se i giocatori si sono già incontrati allora il giocatore 'Bianco' è abbinato con il primo giocatore 'Nero' che non ha ancora incontrato della riga inferiore.
Se ciò avviene nell'ultima riga di un gruppo di giocatori allora viene modificata la penultima riga.
Se ciò avviene nella riga n° K di un gruppo con lo stesso punteggio e tutti i 'Neri' delle righe inferiori hanno già giocato con il 'Bianco n' K, allora cambieremo l'abbinamento nella riga n° K-1, e so ciò non basta nella riga n° K-2 e così via.
Se il Bianco n° K ha già giocato con tutti i 'Neri' cercheremo un avversario per lui a partire dal giocatore 'Bianco' n° K+1 fino a scendere al termine della colonna e di seguito cominciando con il 'Bianco' n° K-1 flno a giungere al 'Bianco' n 1. L'assegnazione del colore a ciascuna coppia verrà fatta in base alle regole apposite.

6.4 Floater
Lo scopo delle procedure di abbinamento è di accoppiare tutti i giocatori all'interno di un gruppo di punteggio. Se ciò non avvenisse, i restanti giocatori vengono trasferiti nel gruppo di punteggio immediatamente inferiore.

7. Trasposizione dei giocatori per soddisfare le richieste del punto 6

Se non potessero completamente soddisfare i requisiti base dell'abbinamento, si potranno effettuare le trasposizioni nell'ordine qui riportato:

7.1 Se un giocatore ha già incontrato tutti i giocatori del suo stesso gruppo di punteggio verrà trasferito nel gruppo immediatamente inferiore.

7.2 Se il numero di giocatori di un gruppo di punteggio è dispari, per pareggiarlo verrà trasferito dal gruppo di punteggio più vicino un giocatore che non abbia già giocato con almeno

uno dei giocatori del gruppo di punteggio superiore e il cui abbinamento sia permesso dalle regole per l'assegnazione dei colori.
Questo giocatore che viene trasferito dovrebbe soddisfare i seguenti requisiti con priorità discendente
- il colore a lui spettante è opposto al colore dominante del gruppo di punteggio superiore.
- se c'è possibilità di scelta, verrà trasferito il giocatore con bucholz maggiore

7.3 Se il numero di giocatori con lo stesso punteggio è pari ma il numero di 'Bianchi' supera i 'Neri' di 2n, allora n giocatori 'Bianchi' con bucholz inferiore verranno trasferiti nel gruppo del 'Nero'. Se ci fossero giocatori con bucholz uguale allora la scelta verrà fatta ordinando alfabeticamente i giocatori.

7.4 Se il numero di giocatori con lo stesso punteggio è pari ma il numero di 'Bianchi' è inferiore ai 'Neri' di 2n, allora gli n giocatori 'Neri' con bucholz superiore verranno trasferiti nel gruppo dei 'Bianco'. Se ci fossero giocatori con bucholz uguale allora la scelta verrà fatta ordinando alfabeticamente i giocatori.

8. Note conclusive

L'arbitro esporrà al termine di ciascun turno idonea documentazione per permettere ai giocatori di calcolare essi stessi gli abbinamenti.
Nel caso di situazioni che non possono essere risolte con le istruzioni riportate, l'arbitro dovrà procedere saggiamente e imparzialmente nello spirito dei principi sopra descritti.

Appendix G: Notes on the USCF Swiss Implemented in Vega

Vega implements all the USCF rules (*USCF Official Rules* - 5th edition 2003). However the user should be aware of the default behaviour of the program.

1. The colors in a series by default are treated by the variation 29E5f1 that states:

> **29E5f1: Last-round exception. Except for the last round, when it may be necessary to pair the tournament or class leaders, players shall not be assigned the same color in three successive rounds.**

This case is the default and Vega handles it automatically. This variation is currently included in all FIDE Swiss systems. If the tournament director needs for some reason to permit three colors in a row before the last round, then he should press the checkbox "Accept WWW/BBB" in the pairing page. To remove the variation 29E5f1 the box "Accept WWW/BBB" should be checked for the entire duration of the tournament.

At the end of the natural pairing Vega improves the colors using the "Look Ahead method". Vega saves in the text file colorlogN.txt (N is the current round) all the switches made during the application of the look ahead method. The following are typical messages referred to the natural pairing:

...
Done Transposition between pairs 1, 4
[1] R80 = 0, R200 = 1: D_trans = 54, D_inter_1 = 442, D_inter_0 = 73

Done Interchange between pairs 2, 8
[4] R80 = 0, R200 = 1: D_trans = 124, D_inter_1 = 59, D_inter_0 = 343
...
The meaning is:
R80: is 1 if can be applied the 80 point rule, otherwise is 0;
R200: is 1 if can be applied the 200 point rule, otherwise is 0;
D_trans: rating difference of the transposition between the pairs;
D_inter_1: rating difference of the interchange A<=>D, in the pairs A-B and C-D; D_inter_0: rating difference of the interchange B<=>C, in the pairs A-B and C-D.

2. The unrated players in Vega are the players with rating exactly equal to 0. The unrated are treated differently by the USCF rules with respect to the BYE and the odd player determination. All the players with rating greater than 0 are instead treated in the same way by Vega. Thus, if the Tournament Director prefers to give to the unrated players the highest priority to be the odd player, the TD should simply assign to them a minimum rating different from zero, for example 1.

Appendix H: Additional Notes for the ECF Tournament Director

1. ECF Grades and Elo Ratings

   ECF grades are calculated in a different way to FIDE Elo ratings, but an approximate conversion is FIDE = ECF x 7.5 + 700. Vega provides a tool for converting between ECF grades and FIDE ratings (Rating Report → ECF → Grades to EloFIDE conversion utility).

   If the user selects the ENG federation when creating the tournament, then the field "Rtg Nat" will be automatically treated as ECF grades. Even the grading performance is calculated according to the ECF rules.

   If the box **Use FIDE rating** is checked, pairing will use FIDE ratings. However, if a player does not have a FIDE rating, Vega will use the national rating instead. When this is an ECF grade Vega uses the conversion FIDE = ECF*7.5 + 700.

   ECF Player Databases

   Vega is configured to make use of two alternative ECF grading databases:

   a) The CSV database that can be downloaded from the Grading section of the ECF web-site http://www.englishchess.org.uk/ This database can be selected by pressing Set DB on the **Players Archive** page and choosing **archive ECF** from the list of predefined databases. It is not necessary to specify a data filter as this is pre-loaded.

   b) The ECF Grading master list (if available). This is usually supplied in dBase (.dbf format), but can be opened with Microsoft Excel (for example) and saved again as a text format (.csv) file. Before saving the text format file it is necessary to set the field delimiter as ';' instead of ',' (as described in Section 2.11.3). The appropriate data filter is set by clicking **Set Filter**, then **Load Filter** and choosing **MasterListECF** from the list of available filters.

2. ECF Rating Report

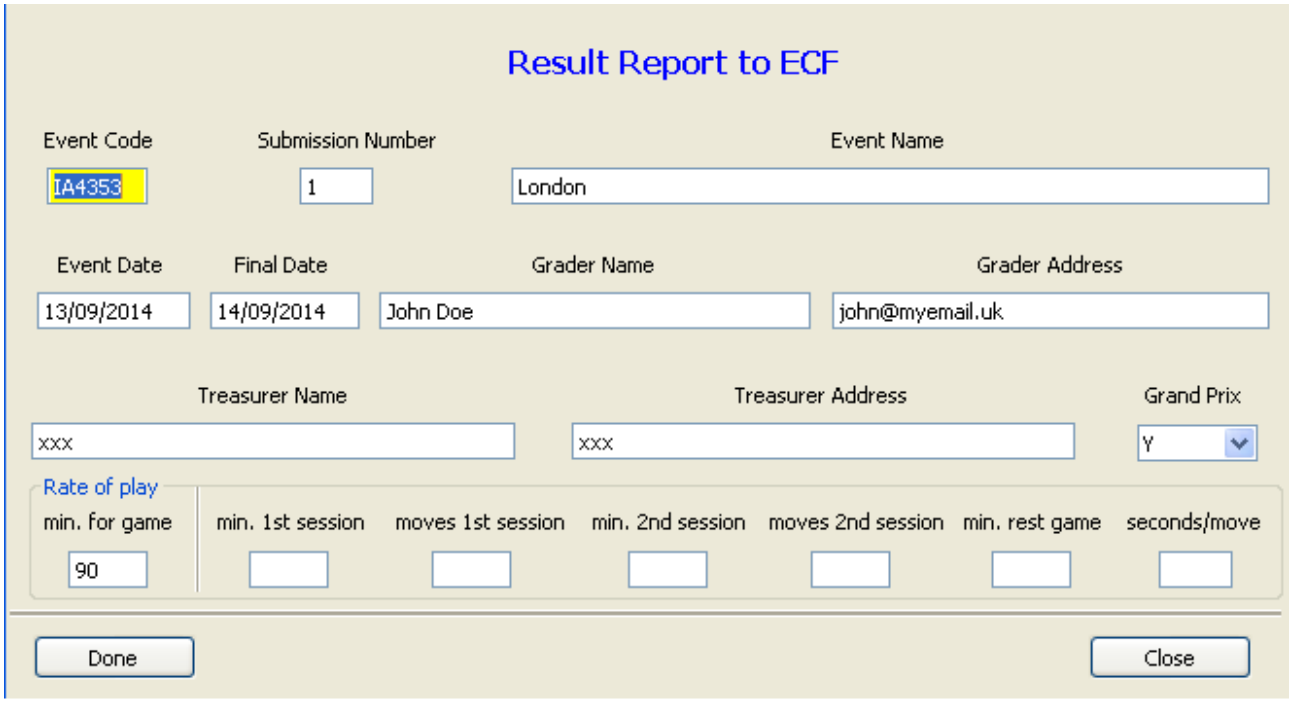
   In order to produce the appropriate ECF rating report, a tournament director should be aware of the following:

a) When creating a new tournament, ENG must be selected in the Federation dropdown box

b) This way the strength of the players is given in ECF grades, otherwise their Elo rating is given instead.

c) The **ID NAT** field of a player should be filled with the exact code found in the database of the ECF. If the player is not yet graded and he is not present in any database, the **ORIGIN** field must be filled with the club code of the player (it is a 4 characters long). If **both ID NAT** and **ORIGIN** fields are empty then the ECF Checker program will flag an error.

d) The **report** is generated by using the menu item **Report→ECF→Process current section** and filling in the following form:



Once complete, clicking on **Done** will generate a file by the name of ECFResults.txt, which is to be fed to the ECF Checker program.

Appendix I: Bucholz and Sonneborn-Berger Tie-breaks for Unplayed Games

As far as the Buchholz and Sonneborn-Berger system is concerned, Vega follows the rule of 80th FIDE CONGRESS 2009 Kallithea, Greece – Minutes of Swiss Pairings Programs Committee Meeting:

7. Handling of unplayed games in Swiss tournaments

The committee agreed unanimously to handle unplayed games in Swiss tournaments as follows:

There are two points of view:
a. For the player himself who gets a result by default or is absent
b. For the opponents in other rounds of the player who gets a result by default

a. The new style Buchhloz uses a virtual opponent to calculate the Buchholz score for a result by default. A virtual opponent has the same points at the beginning of the round and the result by default of a player is treated as a normal result, so a loss by default (by absence) is a win for the virtual opponent and vice versa. For each next round the virtual opponent gains half a point.

b. For reducing the consequence for the opponents when calculating Buchholz, each result by default of a player is counted as a half point (draw) for the Buchholz of the player's opponents.

Examples:

1. In a 9 round swiss the player A achieves 6 points including a default win in round 3. After round 2 A had 2 points score.
The contribution of round 3 for A is 2 + 0 + 6 x 0.5 = 5 points Buchholz
The contribution of A for his opponents' Buchholz is 5.5

2. In a 9 round swiss the player B was absent in round 7 and scored 6 points after round 9. After round 6 B had 4 points.
The contribution of round 7 for B is 4 + 1 + 2 x 0.5 = 6 points Buchholz
The contribution of B for his opponents' Buchholz is 6.5

NOTE: The previous example apply only to Buchholz calculation. In case of Sonneborn-Berger the player that lost to forfeit get no tie-break points (http://www.chesscafe.com/text/geurt174.pdf pag 4).

In Round Robin tournament the unplayed games are considered as really played (http://www.chesscafe.com/text/geurt176.pdf pag 1).

The user can choose whether to adjust the score of the unplayed games (consider them as draw) before applying the Buchholz and Sonneborn-Berger. This is done via the **adjusted score for Buc and S-B** checkbox.

Appendix J: File *.veg

The information regarding the tournament is saved in an ASCII file tournament_file_name.veg. Here are some notes about its format that may be useful for software developers.

```
Vega 5.4 # Do not edit this file! Header file
myTournament                      Tournament name
myTown                            Tournament city
ITA                               FIDE code hosting federation
24/12/2007, 27/12/2007            begin date , end date
myArbiter                         arbiter name
0.5  1.0                          points for draw and win
1 2 0 0 0 0 0 0 0 0          tiebreacks details: 0=not active, N=some tiebrack
                         1: Buccholz Cut 1
                         2: Buccholz Total
                         3: Buccholz Median
                         4: Sonneborn-Berger
                         5: Cumulative
                         6: Average Rat. Opp.
                         7: Koya
                         8: Most Wins
                         9: Av. Perf. Rat. Opp.

5  5  9  0  1  1  0
           number_of_rounds
           current_round
           pairing_system: Swiss Dubov=1
                           simple round robin = 2
                           Swiss Vega = 3
                           Swiss USCF = 4
                           double round robin = 5
                           amalfi rating = 6
                           Swiss Lim = 7
                           amalfi color = 8
                           user defined = 9
                           Swiss Dutch (JaVaFo) = 10

          using_fide_rating_for_pairing: 1=yes, 0=no
          registration: 0=opened, 1=closed
           tournament_status= 0=wait pairing, 1=wait result
           use Kallithea 2009 rule for Buchholz: 1=yes, 0=no

1   0   0    4    2300    2000   0.0   0.0   0.0
    accelerated_pairing: 0=no, 1=yes
    accelerated_groups: 0=not defined, 1=defined
   decreased acceleration: 0=no, 1=yes
    accelerated_rounds
    rating_high_limit
   rating_low_limit
   points_first_group
    points_second_group
   points_third_group

 1  # not used                        not used
13                                   number of registered players
NAME;            COUNTRY;BIRTHDAY;G;TITLE;IDFIDE;ELOFIDE; IDNAT;ELONAT;K;ISAVAL
xfcvxc                    ;ITA;00.00.00;m; GM;       0;    0;       0;    0;30; 1
cxvcxv                    ;ITA;00.00.00;m; GM;       0;    0;       0;    0;30; 1
erter                     ;ITA;00.00.00;m; GM;       0;    0;       0;    0;30; 1
players archive detail
```

```
# players color:  -1 = black,  1 = white,  0 = nocolor
  1    1  -1   1  -1   0
...

# players opponent
  1    7   2   6   8   0
 ...
# players floater: 0 = no floater, 1 = floater
  1  0 0 1 0 0
...
# round results
  1  1 0 0 1 0
  2  1 1 2 1 0
  3  2 1 0 1 0
  4  1 0 0 0 0
  5  1 0 1 0 0
  6  0 1 1 0 0
  7  0 1 0 1 0
  8  0 0 3 0 0
...
                  1: player win
                  0: player lost
                  2: draw
                  3: win for forfeit
                  4: lost for forfeit
                  6: 1/2F - 1/2F draw forfeit
                  5: no game
                  8: 1/2F - 1/2F draw forfeit, no tie-break calculation

# code pairing
      7       7       7       7       7
  10071   20011   30020   20121  110029
  80020   40030  120041   60030   30129
  30091   60051   10060  130051   60139
 100040  130120   50071   40110   90079
  50111   70081  100130   70101   10059
 120061   90100  110091   80010   40089
 130003  110003   80003   90003  100009


each column represents the pairing at round N. The first number is that of the
pairs in that round, then followa number in the format
xxxyyyz, xxx=white ID, yyy=black ID, z=result code as follow
                  1: 1 - 0
                  0: 0 - 1
                  5: 1/2 - 1/2
                  3: 1F - 0         white win to forfait and get the BYE
                  4: 0 - 1F         black win to forfait and get the BYE
                  2: 0 - 0          they lost, no color for both
                  6: 1/2F - 1/2F    no color for both
                  7: adj            1/2 - 1/2 not valid for elo
                  8: 1/2F - 1/2F    draw, forfeit, no color, no tiebreak
                  9:    ...            waiting a result
```

Appendix K: Danubian Variation of the Dubov System

Current version	New version
7.2 If the number of players of the score group is odd, a player from the next possible lower score group shall be transferred to the score group to be paired, who has not yet played with at least one of the players of the higher score group and is allowed to be paired according to the color allocation rules. This player to be transferred should fulfil the following requirements with descending order of priority: • Their due color is opposite to the dominating due color of the higher score group. • If there is a choice, then the player with the highest R is to be transferred. • If there is more than one player with the same R, the one with the lowest ARO will be transferred.	**7.2 (new)** If the number of players of the score group is odd, a player from the next possible lower score group shall be transferred. The transferred player should fulfil the following requirements with descending order of priority: • The player should have at least one compatible opponent in the higher score group. • The player's due color is opposite to the dominating due color of the higher score group. • If there is a choice, the player with the highest R is to be transferred. • If there is more than one player having the same R then the one with the lowest ARO will be transferred. The opponent of the transferred player should fulfil the following requirements with descending order of priority: • Their due color is that of the dominating due color of the score group. • If there is a choice, they have the lowest R. • If there is more than one player with the same R, the chosen opponent is the one with the lowest ARO.

Appendix L: Zermelo Score System

The method of paired comparison has been applied to chess tournaments. The model used is that proposed by Davison and Beaver [1] and has been implemented in Vega as a supplementary tool able to provide a new, fairer standing at the end of a tournament. The proposed score system in Vega is named Zermelo score system after the first scholar who proposed the method. In fact, historically, the method was created with chess as the main application.

There are situations where a set of objects is to be evaluated on the basis of responses obtained when the objects are presented in pairs. This method is known as method of paired comparison. It has been used in contexts as marketing research, taste testing experiments, and other sensory discrimination studies for which the responses to the objects are a function of a complex physiological process. Moreover in several sports the competitors are ranked on the basis of their performance when they meet in pairs. Chess is one of them.

Using the paired comparison method of experimentation, each pair formed from a set of m objects is presented to a respondent who is asked to indicate a preference for one member of the pair. It is assumed that the responses to the objects can be described in terms of an underlying continuum on which the "worths" of the objects can be relatively located.

Translating the previous words into chess language is rather easy. The tournaments, both Round Robin and Swiss systems, produce natural paired comparisons at each round and the response is just the game result. We assume the game result depends on the player strength denoted by γ.

Given two players, i and j, with strenght γ_i and $\gamma_j$respectively, for the ordered pair (i, j), i.e. with i playing with white pieces, we have the following formula

$$P(i \to j \mid i,j) = \frac{\gamma_i}{\gamma_i + \theta\gamma_j + \nu\sqrt{\gamma_i\gamma_j}}$$

$$P(j \to i \mid i,j) = \frac{\theta\gamma_j}{\gamma_i + \theta\gamma_j + \nu\sqrt{\gamma_i\gamma_j}}$$

$$P(j \approx i \mid i,j) = \frac{\nu\sqrt{\gamma_i\gamma_j}}{\gamma_i + \theta\gamma_j + \nu\sqrt{\gamma_i\gamma_j}}$$

where $P(i \to j \mid i,j)$ is the probability that i beats j, $P(j \to i \mid i,j)$ the probability that j beats i, and $P(j \approx i \mid i,j)$ is the draw probability. The parameter$\theta > 0$ is related to the colour ($\theta > 1$means that player playing black has advantage, $\theta < 1$ means that player playing white has advantage, $\theta = 1$ means that no coulours bring advantage to the players) . The parameter$\nu \geq 0$ is related to the draw preference ($\nu = 0$ means that draw is not possible). Both $\theta$and ν are unknown and must be determined together the γ_i.

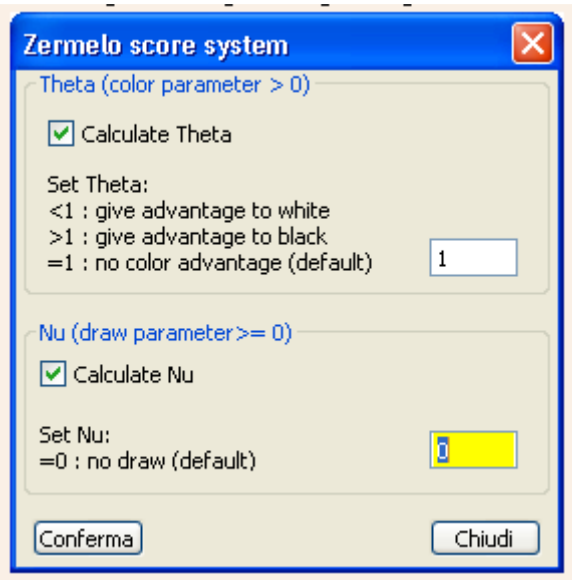
The task to calculate the unknowns is performed via an iterative procedure described in [1] and implemented in Vega. Moreover the user has some possibility to tune the parameters.

Option: Zermelo Score System

With this option the procedure is applied looking for γ_i but setting $\nu=0$ and $\theta=1$ as in the original Zermelo paper. The γ_i are in the 'Z Pts' column. The column 'ZN Pts' is the same of 'Z Pts' but with the greatest γ_i set to 100. The method does not broken the tie in a round robin tournament and is not particularly useful in this case because the ranking is the same of score percentage. In Swiss systems it turn out to be much more useful.

Option: Zermelo Score System Extended

With this option a panel prompts the user to choose how to perform the calculations:



The user may ask to find both parameters ν and θ or set one or both to some value.

Reference
[1]: On Extending the Bradley-Terry Model to Incorporate Within-Pair Order Effects, Roger R. Davidson and Robert J. Beaver Biometrics Vol. 33, No. 4 (Dec., 1977), pp. 693-702

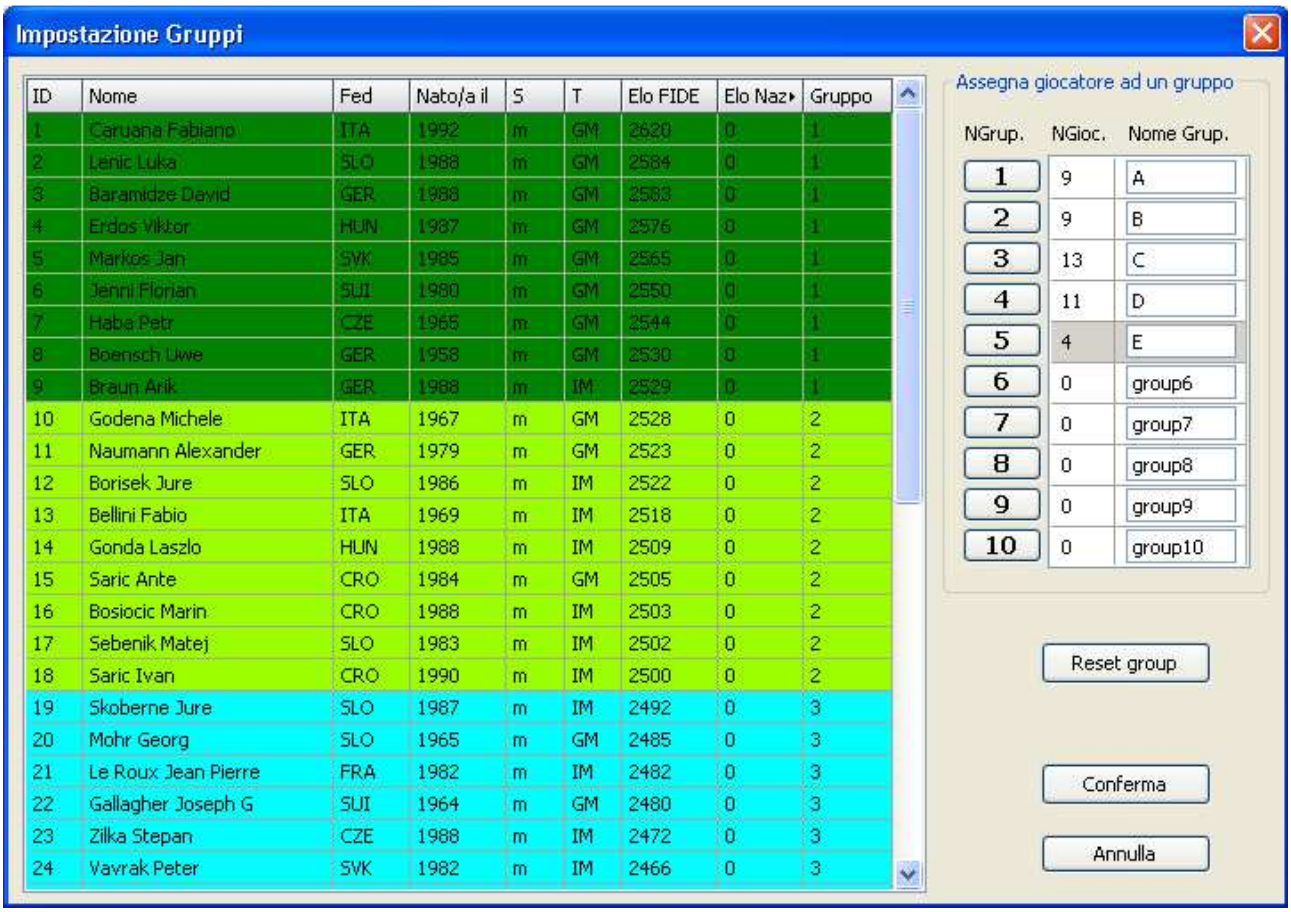
Appendix M: Tournament with Independent Groups

In some tournaments it may be convenient to avoid pairing among determined groups of players. In this way each player faces players of his own group. So we have several independent sections within one big section (I use this system with scholastic tournament where each section is scarcely populated. Round by round it is shown a ranking list for each group).

In order to administer such a tournament the user should:

1. at the definition of the tournament select the pairing system **"swiss GROUP"**;
2. before to generate the first round assign the players to their group by the option **Extra → Set groups for multisection tournament**.

The last option will show the following window.

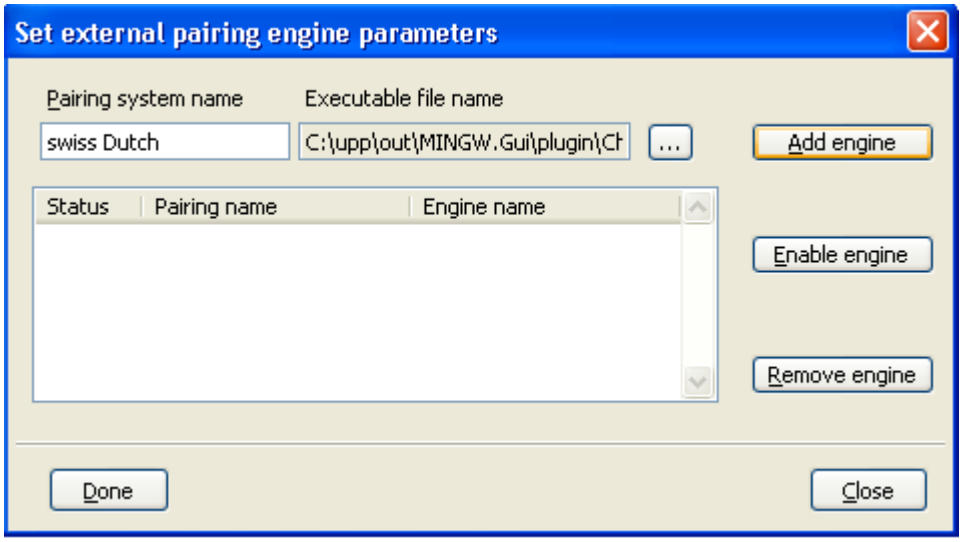

Impostazione Gruppi
ID Nome Fed Nato/a il S T Elo FIDE Elo Naz Gruppo
1 Caruana Fabiano ITA 1992 m GM 2620 0 1
2 Lenic Luka SLO 1988 m GM 2584 0 1
3 Baramidze David GER 1988 m GM 2583 0 1
4 Erdos Viktor HUN 1987 m GM 2576 0 1
5 Markos Jan SVK 1985 m GM 2565 0 1
6 Jenni Florian SUI 1980 m GM 2550 0 1
7 Haba Petr CZE 1965 m GM 2544 0 1
8 Boensch Uwe GER 1958 m GM 2530 0 1
9 Braun Arik GER 1988 m IM 2529 0 1
10 Godena Michele ITA 1967 m GM 2528 0 2
11 Naumann Alexander GER 1979 m GM 2523 0 2
12 Borisek Jure SLO 1986 m IM 2522 0 2
13 Bellini Fabio ITA 1969 m IM 2518 0 2
14 Gonda Laszlo HUN 1988 m IM 2509 0 2
15 Saric Ante CRO 1984 m GM 2505 0 2
16 Bosiocic Marin CRO 1988 m IM 2503 0 2
17 Sebenik Matej SLO 1983 m IM 2502 0 2
18 Saric Ivan CRO 1990 m IM 2500 0 2
19 Skoberne Jure SLO 1987 m IM 2492 0 3
20 Mohr Georg SLO 1965 m GM 2485 0 3
21 Le Roux Jean Pierre FRA 1982 m IM 2482 0 3
22 Gallagher Joseph G SUI 1964 m GM 2480 0 3
23 Zilka Stepan CZE 1988 m IM 2472 0 3
24 Vavrak Peter SVK 1982 m IM 2466 0 3
Assegna giocatore ad un gruppo
NGrup. NGioc. Nome Grup.
1 9 A
2 9 B
3 13 C
4 11 D
5 4 E
6 0 group6
7 0 group7
8 0 group8
9 0 group9
10 0 group10
Reset group
Conferma
Annulla

It is possible to have up to 10 groups each one handled with a button on the right side of the window. To select a group of players use **SHIFT + left click** and then press the button (group) to which the players belong.

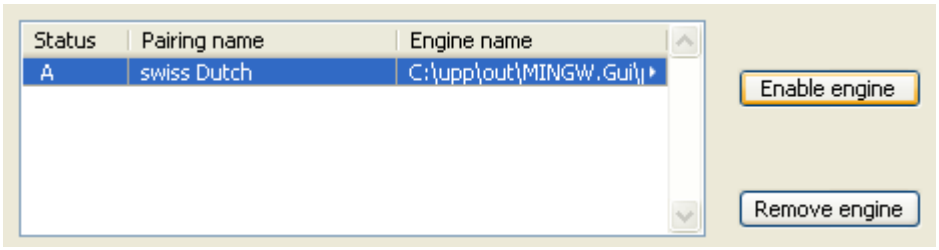
The groups can be renamed filling the field on the right side.
To activate the groups press **Done**. The ranking list at each round must be generated by the option **Extra → Rank Groups.**

Appendix N: Adding an External Pairing Engine

Vega permits the addition of a third-party pairing engine (it can be freely made by anyone). The executable must reside in the **plugin** folder under the installation folder. To add the engine, select the menu item **Extras → Add External Pairing Engine.** Vega will show the following window:

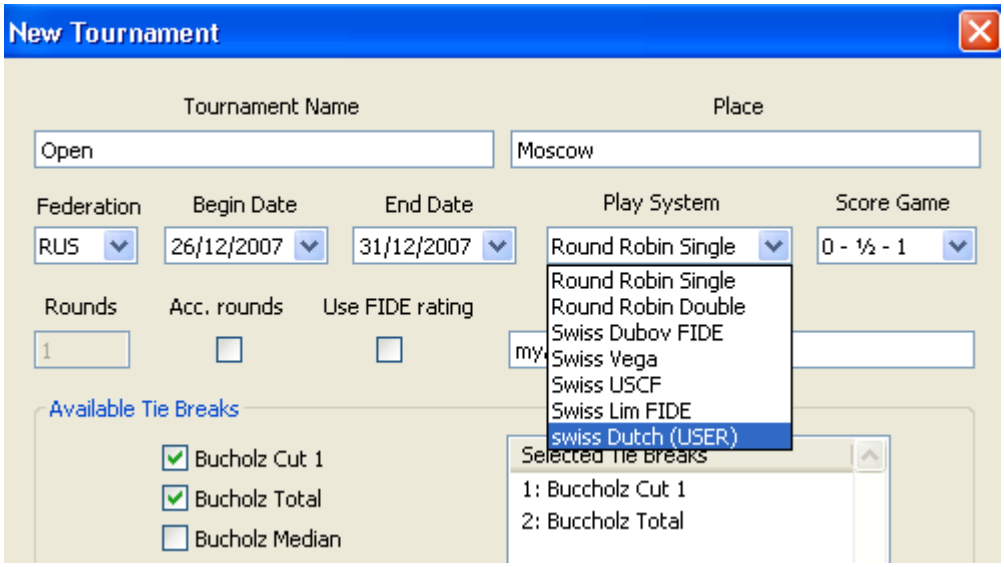


The user should enter the name of the pairing system, the full path of the executable, and then press the **Add engine** button.



There can be several engines but only one can be used at time. To choose one of interest, the user needs to select one of them, press the button **Enable engine** (an 'A' will appear on its left side), and then click **Done**.

In order to use the external engine the user should select it during the definition of a new tournament.



At each round Vega runs the executable engine with the following command:

```
$>  engine_name  tournament_path  file_name.trfx
```

where `tournament_path` is the path of the tournament folder, and `file_name.trfx` is the file automatically generated containing the tournament data. In this way the engine is correctly addressed where the important tournament files are with appropriate parameters.

> ***NOTE:*** *It is recommended that the tournament_path does not contains blank space or unusual characters to prevent the engine to work correctly.*

> ***NOTE:*** *It is responsibility of the extern engine to retrieve all the relevant tournament data from the trfx file saved by Vega in the tournament folder. The engine must save all its output in the tournament folder.*

Vega expects from the engine a file that at round N should be named as **`engine.man`** containing the pairing at round N in the following format: a first row with the number of the pairs, and for each successive row, the IDs of the player of each pair. This is a typical *.man file containing 5 pairs:

```
5
5   2
17   10
16   13
8   11
9   3
```

(the BYE has ID=0). If this file exists Vega will load it and continues with the insertion of results and making all the ranking lists.

The `file_name.trfx` is used by Vega to pass sensible data to the external pairing engine. This file is used, for example, by JaVaFo engine of Roberto Ricca.

The extension trfx stands for eXtended Tournament Report Format. The file is a slight modification of the one used by FIDE for rating report as specified by its creator Mr. Christian Krause. The following specification comes from the FIDE web site

```
Remark: each line shall have a "CR" (carriage return) as last character

     1.Player section:

     Position   1 -   3  Data-Identification-number (001 for player-data)
     Position   5 -   8  Startingrank-Number
     Position  10       sex (m/w)
     Position  11 -  13 Title
     Position  15 -  47 Name (Lastname, Firstname, academic title)
     Position  49 -  52 FIDE Rating
     Position  54 -  56 FIDE federation
     Position  58 -  68 FIDE Number (including 3 digits reserve)
     Position  70 -  79 Birth Date (YYYY/MM/DD)
     Position  81 -  84 Points (in the Form 11.5)
     Position  86 -  89 Rank

     For Every Round

     1.Round

     Position  92 -  95 Startingrank-Number of the opponent in round 1
                        if the player had a bye     :  0000
                        if the player is not paired : "    " (blank)
     Position  97 -  97 Color against the opponent of round 1
                        (w..white, b..black, - no color)
     Position  99 -  99 Result against the opponent of round 1
                        1      win
                        =      draw
                        0      lost
                        +      win forfeit
                        -      lost forfeit
                      " "      not paired

     2.Round Position 102 - 109 (analog round 1)
     3.Round Position 112 - 119 (analog round 1)
     ...
     ...


     2. Tournament section:

     Position 1  - 3  Data-Identification-number (??2 for tournament
data)
     Position 1  - 3  012  from Position 5: Tournament name
     Position 1  - 3  022  from Position 5: City
     Position 1  - 3  032  from Position 5: Federation
     Position 1  - 3  042  from Position 5: Date of start
     Position 1  - 3  052  from Position 5: Date of end
     Position 1  - 3  062  from Position 5: Number of players
     Position 1  - 3  072  from Position 5: Number of rated players
     Position 1  - 3  082  from Position 5: Number of teams
                                          (in case of a team tournament)
```

```
    Position 1  - 3  092  from Position 5: Type of tournament
    Position 1  - 3  102  from Position 5: Chief Arbiter
    Position 1  - 3  112  from Position 5: Deputy Chief Arbiter(s)
    Position 1  - 3  122  from Position 5: Alotted times per moves/game
    Position 1  - 3  132  dates of the rounds (YY/MM/DD)
                          position 92 - 99 round 1
                          position 102 - 109 round 2
                          position 112 - 119 round 3
                          to be contiued

    3. Team section
    Position 1  - 3  013
    Position 5  - 36 Team name
    Position 37 - 40 Number of player 1 (from player section)
    Position 42 - 45 Number of player 2
    Position 47 - 50 Number of player 3
    Position 52 - 55 Number of player 4
    Position 57 - 60 Number of player 5
    Position 62 - 65 Number of player 6
    Position 67 - 70 Number of player 7
    Position 72 - 75 Number of player 8
    Position 77 - 80 Number of player 9
    Position 82 - 85 Number of player 10
    Position 87 - 90 Number of player 11

    may be continued
```

This file was intended as final report to calculate the rating variation and the information it contains is not enough to drive an external engine.

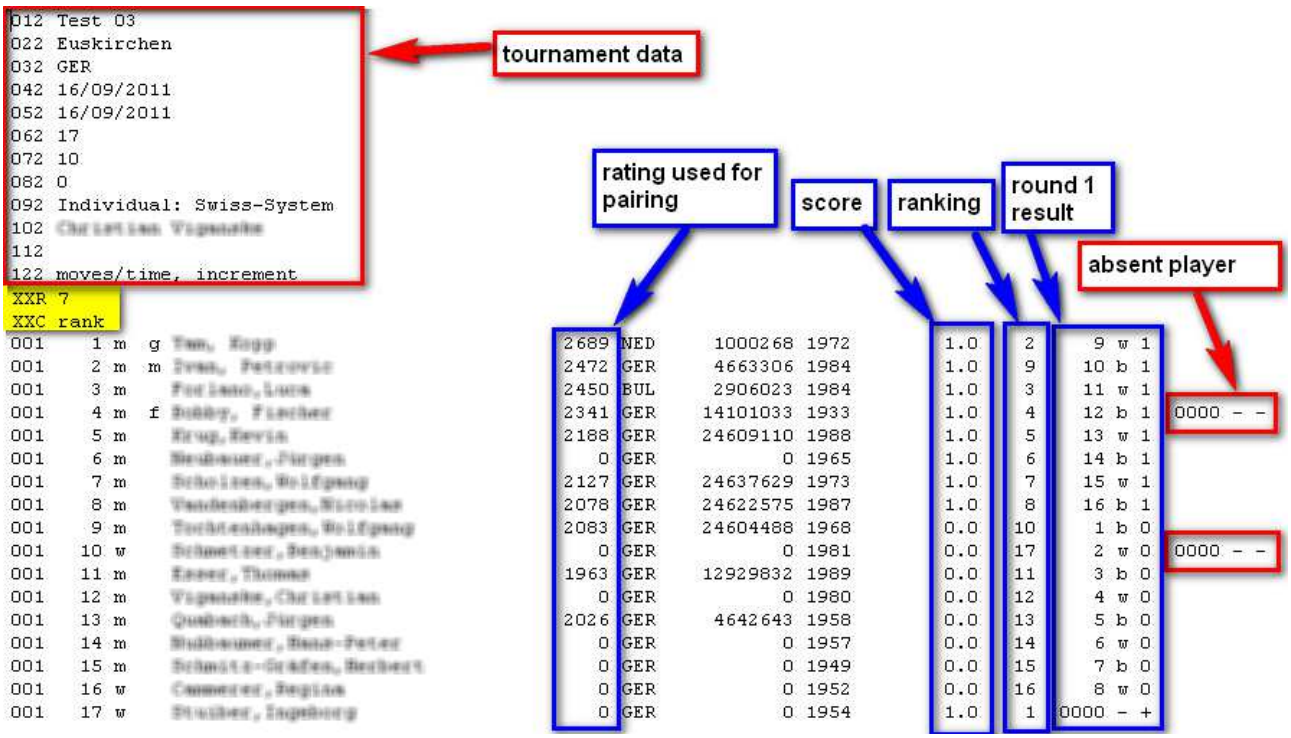
This file is saved by Vega at the beginning of round N. It contains all above data, the status of the players for the next round (absent with a lost "0000 - - ", absent with a forfeited draw "0000 - = ") with other additional info. Here is a list of the new tags:

XXR : Position 1 - 3, Number of rounds, followed by a space and an integer number
example (in red is a comment):
```
XXR 9      tournament with 9 rounds
```

XXC : Position 1 - 3, Configuration. It is used to signal how to assign the white at first round
example (text in red are comments):
```
XXC white1  assign white at player with ID=1
XXC black1  assign black at player with ID=1
XXC       assign white/black at player with ID=1 via a random process.
          The same operation is performed at round 1 if tag XXC is absent
```
From round 2 the tag XXC appear in the file as
```
XXC rank
```

This is specific of JaVaFo engine and will be documented in future. The developer can skip this info.

Here is a typical trfx file at the end of round 1 and passed to the engine to perform the pairing of round 2:



The current round can be deduced by the external engine counting the number of filled columns in the round result area.

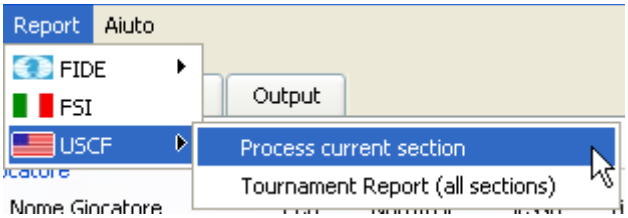
Appendix O: USCF Rating Report

In a large tournament, there are usually several sections (for example Open, U2000, U1800, U1600). A Vega session can administer only one section of the tournament at a time. This is not a limitation because you can run multiple sessions of the program simultaneously, and keep the user interface very simple. The rating report for USCF needs 2 steps to be performed:

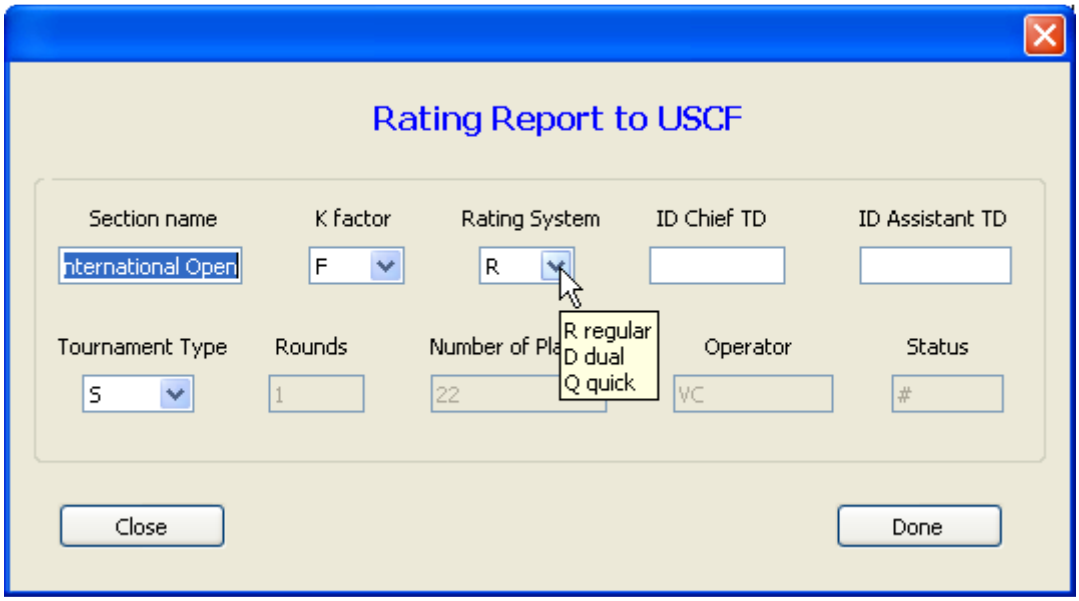
1. Generate an auxiliary file from each section containing information to be processed later concerning the current section (file uscfsctn.txt);

2. Process all the uscfsctn.txt files and generate the three files needed by USCF for the final report: thexport.dbf, tsexport.dbf, tdexport.dbf.

These last files are not covered here (see the USCF Forum for detail). Now we'll see how to generate them. The first task is performed when the section tournament is finished by selecting the option **Report / USCF/ Process current section**:



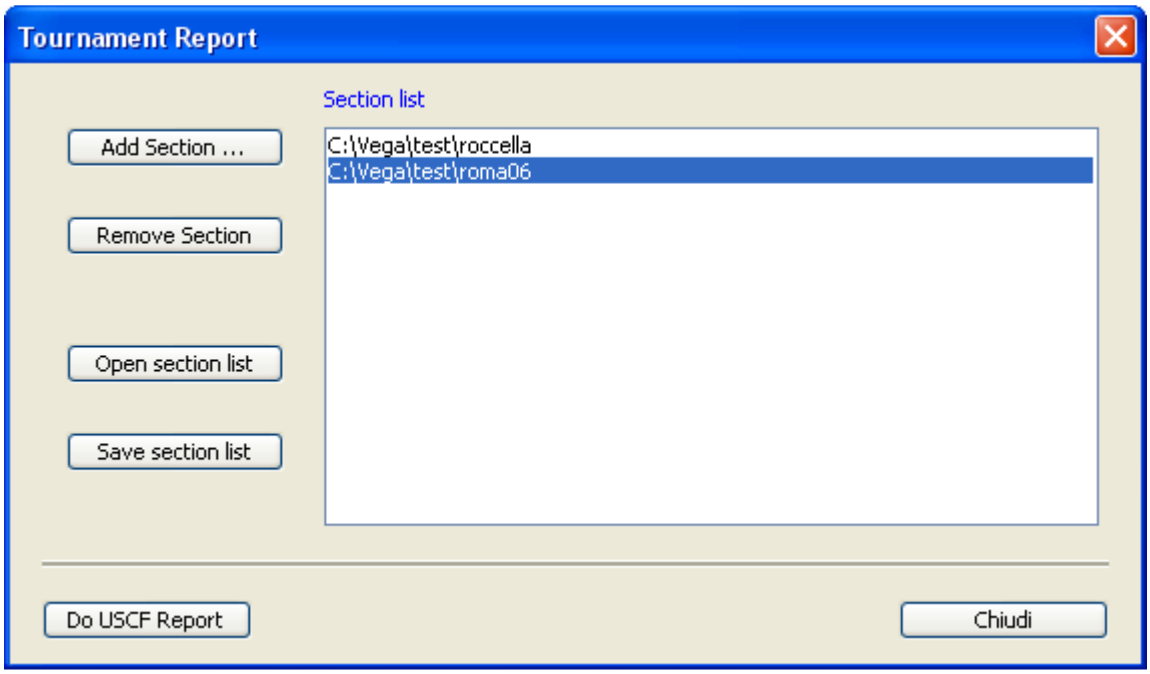
A new window will prompt the user for data relative to the **current section**. Some of this data is of course the defaults, so the user usually only needs to insert a few of them unknown to Vega (for example ID Chief TD, and so on. Please note that the fields "Rounds" and "Number of Players" cannot be edited.)



By pressing the button **Done** Vega generates the auxiliary file uscfsctn.txt (it is tab delimited) in the working directory of the current section. This task must be done for each section.

When Vega generates all the uscfsctn.txt files, the user should select the menu item **Tournament**

Report:

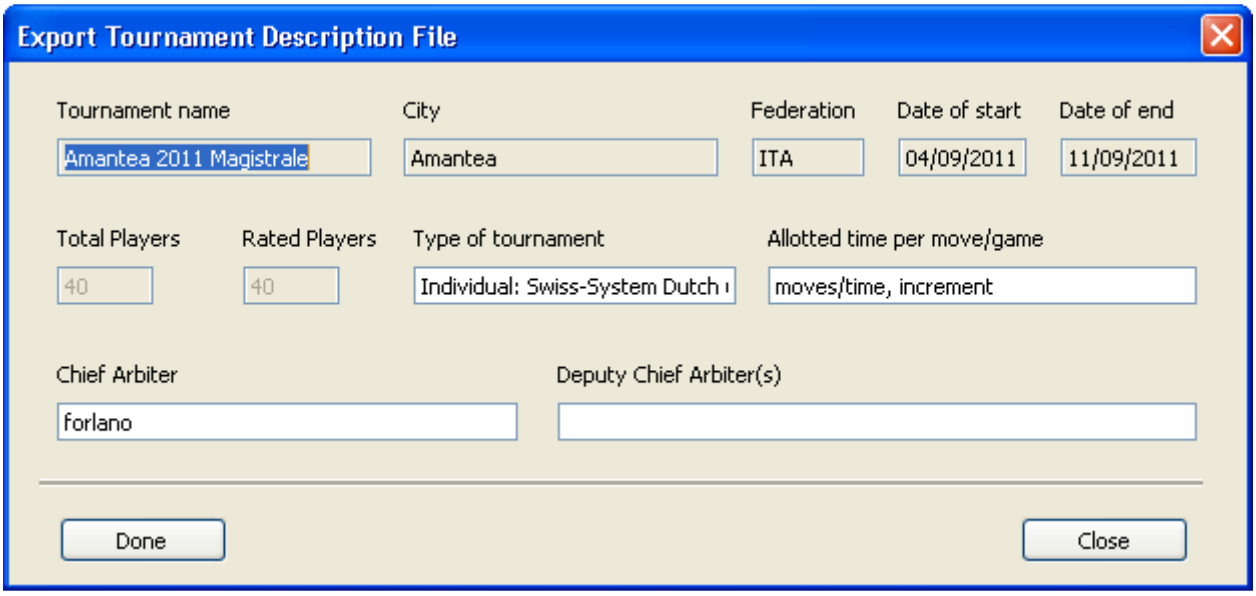


Add Section selects the working directory of each section. To remove one of them the user should press the button **Remove Section**. In our example the tournament has two sections and the working directories are those listed in the right side of the previous window. To save the list use **Save section list**. To load it use **Open section list**. When finished, press the button **Do USCF Report**. The following window will appear:

As seen before, some of the data is already known to Vega, some cannot be edited and some needs to be inserted by the user. When all the fields are filled (otherwise Vega will not continue) the user can generate the USCF report by pressing the button **Done**. The required files in dbf format are in the installation directory.

Appendix P: Generic Tournament Description File

The user needs to fill in the form (some data are the defaults and cannot be changed at this point)



Press **Done** to confirm and save the file tournamentname-city.tdf in the tournament folder.

The format of the tdf file is similar to the FIDE rating report. But it has two more columns regarding the national player code and the national rating. The fields are separate by "|" instead of being fixed length. Each row begins with a three digit code specific of some kind of data. Some rows may be absent. Empty rows should be skipped.

The file has two main sections. One regarding the whole tournament, and another with the history of each player. Here is the tournament section.

012 Tournament name
022 City
032 Federation
042 Date of start
052 Date of end
062 Number of players
072 Number of FIDE rated players
082 Number of teams (in case of a team tournament)
092 Pairing system (default is swiss system)
102 Chief Arbiter
112 Deputy Chief Arbiter(s)
122 Allotted times per moves/game
132 dates of the rounds (YYYY/MM/DD) separated by ";'
142 points for game in format: W.W D.D
respectively for victory and draw. Default is 1.0 0.5
152 current round
162 total number of rounds
172 used tye-breaks code separated by ";"
182 name of the accelerated system if used
192 Program used for pairing

From the point of view of a rating system, many of the previous rows are just useless and can be simply skipped if not needed. The reader can focus only for the rows of interest and be ready to continue to work even if some of the previous rows are absent or present and unwanted.
The following is a real example with the data Vega saves each time (the comments are in red):

```
012 1 Torneo km zero   Tournament name
022 Scalea             Tournament place
032 ITA                Host Federation
042 18/12/2009         Begin date
052 20/12/2009         End date
062 30                 number of players
072 12                 FIDE rated players
092 Individual: Swiss-System Dutch (JaVaFo)   Pairing system
102 AF D'Alessandro Flavio          Arbiter
112              an empty row
122 90 minutes + 30 s of increment for move   Time
142 1.0  0.5     point for win and draw
152 4            current round
162 9          Numbers of rounds
192 Vega 6.0.1   program name and version
```

After the previous sections come the player section that is mandatory.
Each row contains specific player data to permit his look-up in the FIDE and National database, and his tournament history as well.
The row can be in any order although the one following the Startingrank-Number should be the preferred one.
The row starts with the three digit code “001”, then a space delimits a record in which the fields are separated by the delimiter “|”.

```
Startingrank-Number  : 4 digit number
sex                  : “m” or “w”  (default is “m”)
Title                : max three characters
Name                 : Lastname Firstname (max 30  characters)
FIDE Rating          : 4 digit number
FIDE federation      : 3 characters
FIDE code            : 12 digit number
National Rating      : 4 digit number
National code        : 12 characters
Birth Date           : 10 characters
Points               : in the form  XX.X
Tournament Rank      : 4 digit number
Round 1              : see below
.............................................
Round last           : see below
```

Round Description

At each round, a player can be paired or unpaired if he communicated his absence.
Game with a pre-arranged half-point bye or any byed game are considered paired.
An unpaired game is indicated by an empty or blanked string between the field delimiter “|”.
So an unpaired game is indicated as: “||” or “| |” .
A paired game maybe rated or unrated.
A rated game consists of an opponent, a color, a result indicator.

Rated game format: “N C R”

where
N = startingrank-number of the opponent;
C = color (w : white, b : black)
R = result (1 win, 0 lost, 2 draw)

An unrated game consists of an opponent, a color, a result indicator.

Unrated game: “N C R”

where
N = startingrank-number of the opponent (0000 in case of BYE);
C = color (w : white, b : black, - : no color in case of byed game)
R = result (+ win, - lost, = draw)

Thus the unrated and rated game are differentiate by the sign that denote the result. This is an example of player row with 4 round

001 1 | m | f | GROMOVS Sergejs | 2291 | ITA | 811394 | 2291 | 121317 | 151265 | 1.0 | 23 | 16 w 0 | 22 b 0 | 28 w 1 | 14 b 0

Appendix Q: Swiss System with Progressive Acceleration

Objective: This variant of the Swiss system aims to better match opponents of approximately equal strength during an open tournament. The goal is to allow international norms during an open tournament where less than half of the players have a FIDE rating.

Principles of operation: When pairing at the start of the round, each player has a global score (GS), which is equal to the real score gained by play (RS) plus a fictitious score (FS) between 0 and 2:

GS = RS + FS

Rather than relying solely on fixed full-point fictitious offsets to separate the groups, this system awards additional half-points based on achievement during the tournament. This allows the groups to merge together more gradually.

Calculation of the fictitious score

Players are divided in 3 groups A, B, C on the basis of their Elo rating. Each group includes a minimum of 25% and a maximum of 50% of all players. Elo rating is used to limit the groups, which are decided by the arbiter before the start of first round. The groups may be set according to the prizes determined by the organizers. In general, group A includes players having an Elo rating greater or equal to 2000 points and group C includes players with an Elo rating of less than 1600 points.

Like the standard accelerated system, at the start of the tournament, players in group A have two fictitious points (FS = 2), group B one fictitious point (FS = 1) and group C no fictitious points (FS = 0).

When a player of either group B or C gains at least 1.5 real points (RS $\geq$ 1.5), their fictitious score is increased a further half-point. When a player gains their third real point (RS $\geq$ 3), their fictitious score is increased another half-point. Thus group B players can eventually attain the maximum of number of fictitious points (FS = 2).

When a player of group C gains at least 4.5 real points (RS $\geq$ 4.5), their fictitious score is increased by a half-point for the third time.

When a player achieves N/2 real points (where N is the number of rounds in the tournament), their fictitious score is brought to 2.

Before the penultimate round, all fictitious points are cancelled and the system becomes a usual Swiss system.

Summary table

Within each cell, the top number represents the real points and the number within brackets is the fictitious amount added in order to achieve the Global Score (GS).

The rightmost cells of the table consider cases with more than 11 rounds (they don't include groups A or B). Lower-case “n” in this case represents the number of rounds.

GS	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7
Grp.A					0 (2)	0.5 (2)	1 (2)	1.5 (2)	2 (2)	2.5 (2)	3 (2)	3.5 (2)	4 (2)	4.5 (2)	5 (2)
Grp.B			0 (1)	0.5 (1)	1 (1)		1.5 (1.5)	2 (1.5)	2.5 (1.5)		3 (2)	3.5 (2)	4 (2)	4.5 (2)	5 (2)
Grp.C n=9	0 (0)	0.5 (0)	1 (0)		1.5 (0.5)	2 (0.5)	2.5 (0.5)		3 (1)	3.5 (1)	4 (1)			4.5 (2)	5 (2)
Grp.C n>11	0 (0)	0.5 (0)	1 (0)		1.5 (0.5)	2 (0.5)	2.4 (0.5)		3 (1)	3.5 (1)	4 (1)		4.5 (1.5)	5 (1.5)	5.5 (1.5)